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ISSUE 41 ■ DECEMBER 1992 ■ £3.95

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AMIGA FORMAT Arcade Issue 41

Wordworth 2



The top word processor in new version useable demo shocker!



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Nigel Mansell's World Championship

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WOW!

DON'T MISS THIS! TWO NEW AMIGAS
A1200 revealed: A4000 reviewed

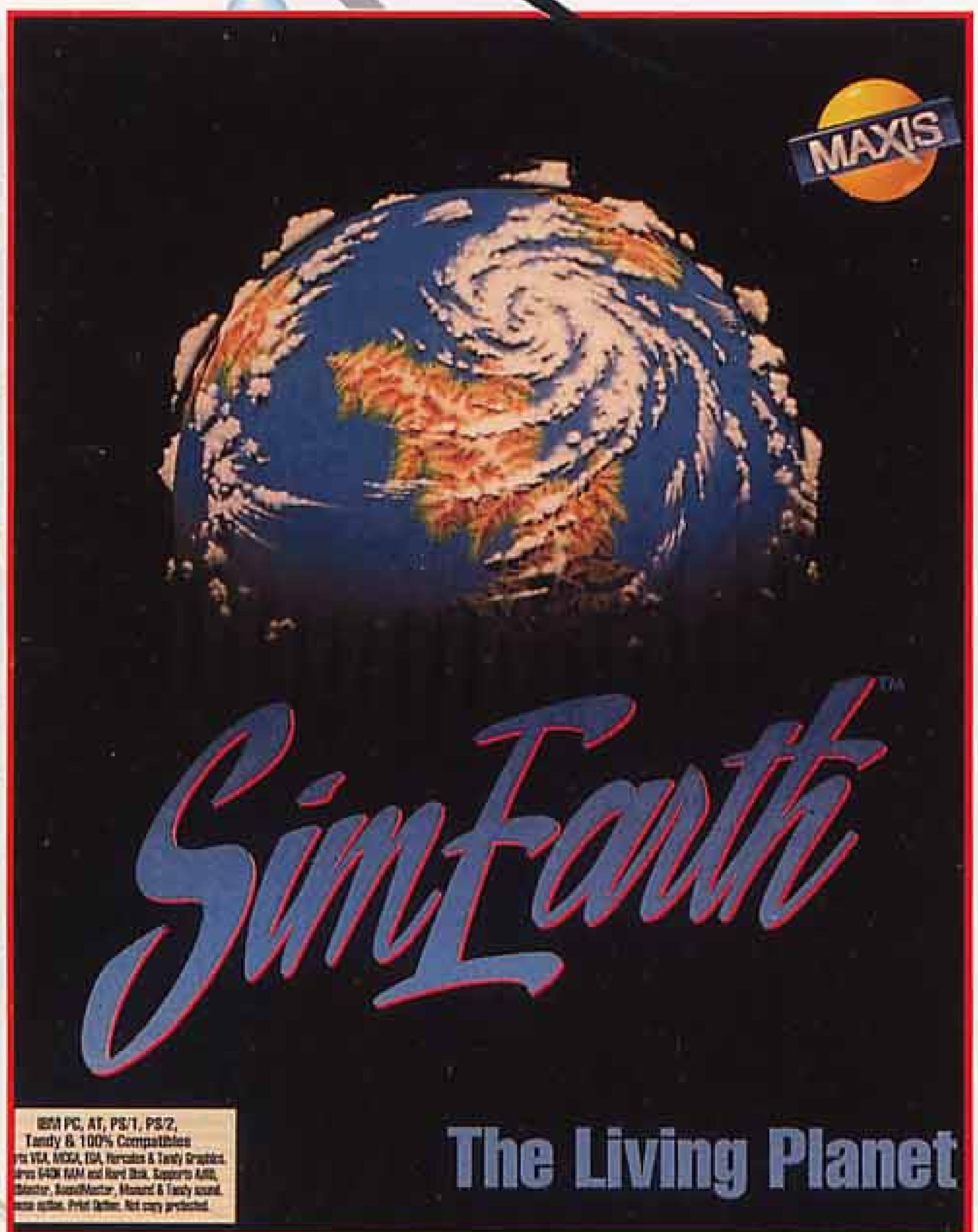
REVIEWED: ROAD RASH, SHADOW OF THE BEAST 3,
WIN! A Miracle keyboard!
GFX: Amazing OpalVision

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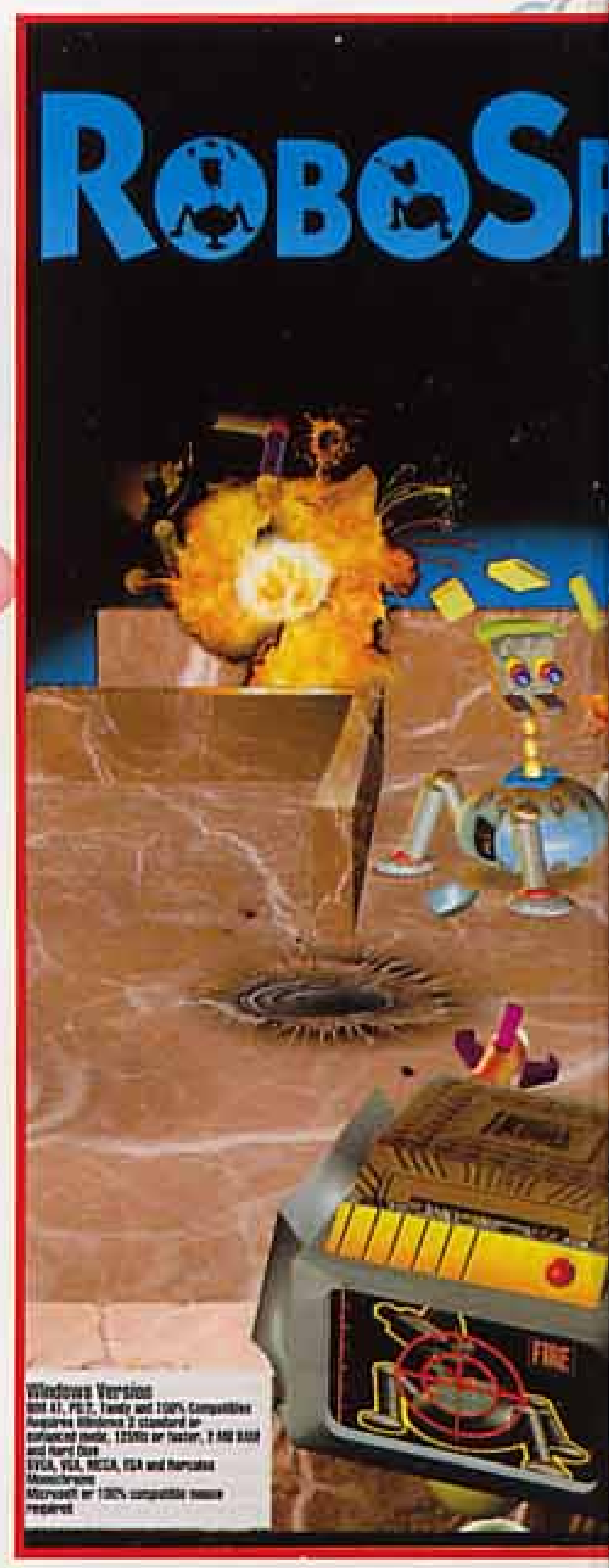
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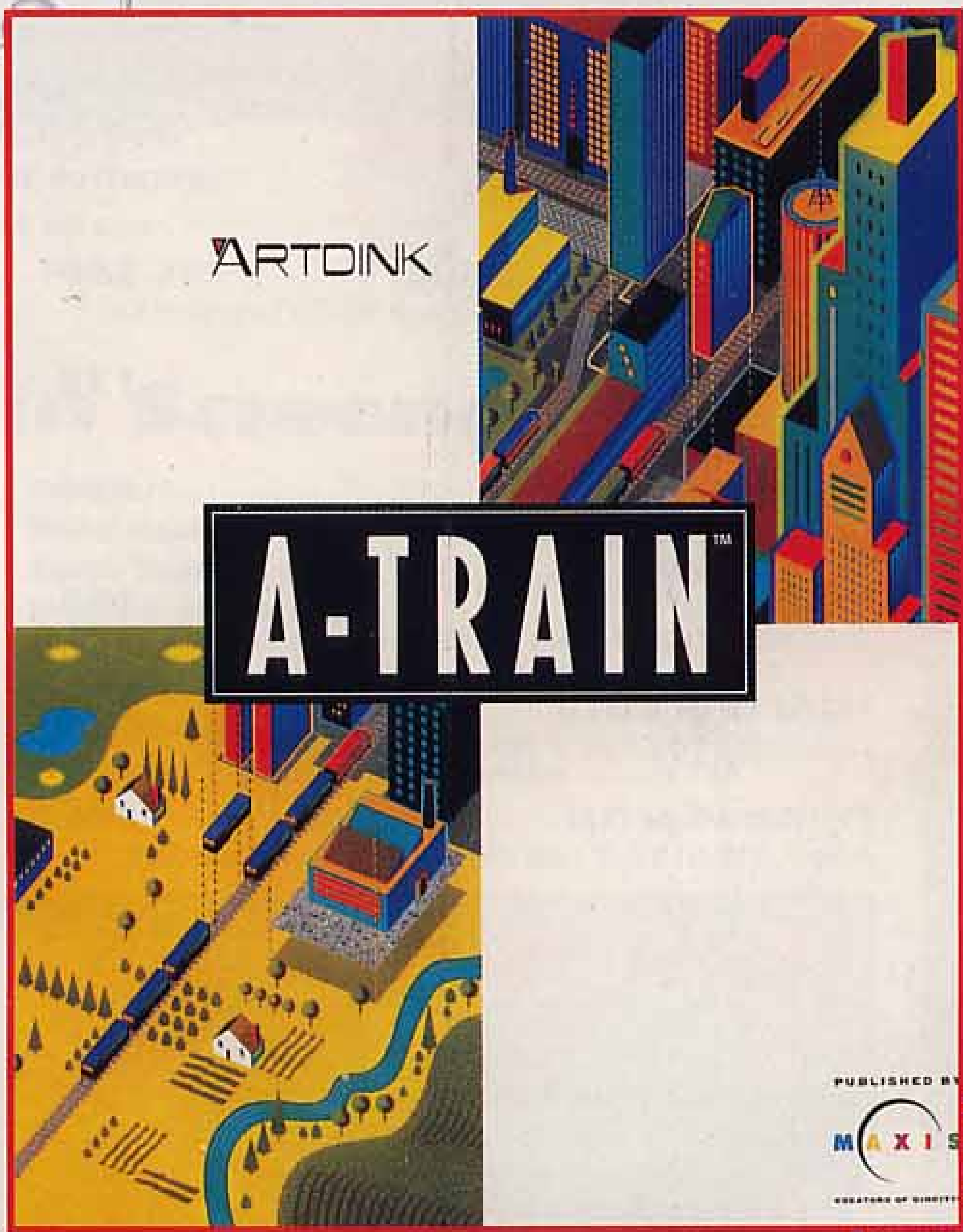


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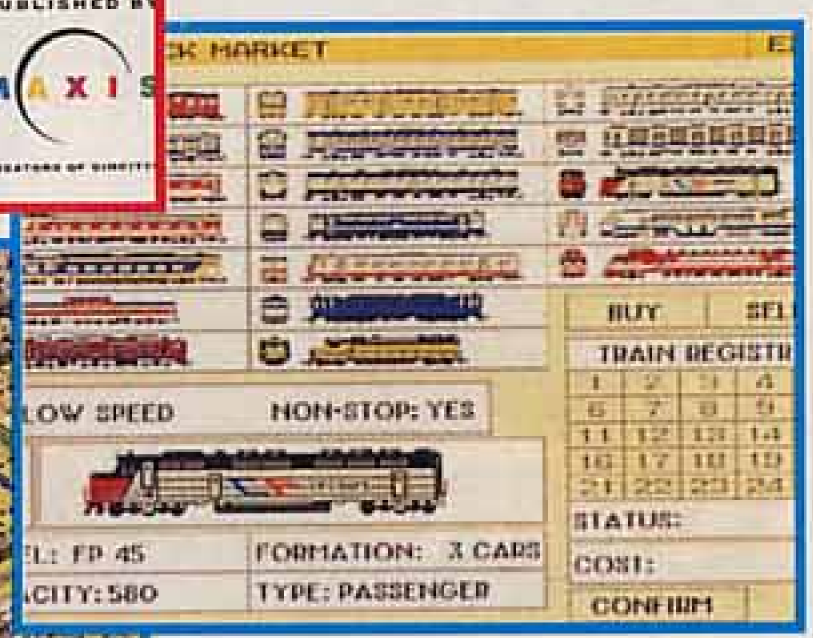
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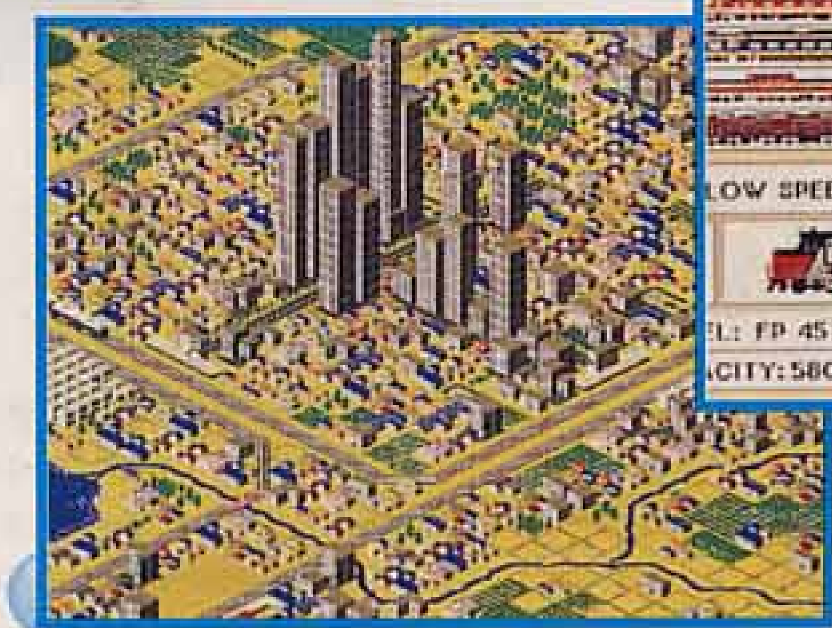
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DECEMBER 1992

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History repeats of the month...

"Such a little man could not have made so big a depression."
Norman Thompson about President Herbert Hoover.

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News — 22



IN NEWS

The A1200: the 32-bit Amiga we all hoped would happen? What does the launch of yet another new Amiga mean to you the user? We explore machine and issues.

Screenplay — 81



BUDGET CLASSICS

Classic games don't die, they just drop quite radically in price. We delve into the less expensive areas of the Amiga games scene to discover some gems.

Reviews



REVIEWED
OpalVision

Is this 24-bit graphics package one of the best buys for the Amiga or simply too much hype. We tell you.



REVIEWED
VIDI-12

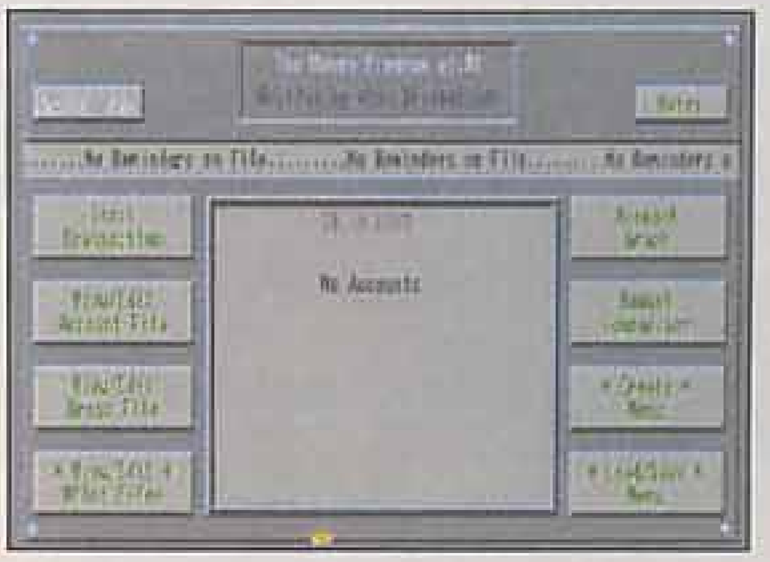
Digitising from video is one of the fastest growing areas on the Amiga. We examine the latest hardware for you.

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Regulars



IN PUBLIC DOMAIN

Money managers and more are all available to you for next to nothing in this month's collection of free and budget-priced software.



SLIIIIIIIDE!

Live someone else's fantasy in one of the best slideshows we've ever seen with *Forgotten*, a strange mix of stunning images.

The A4000

Commodore have altered the view at the top of the Amiga range with a new design, a new chip set and some other surprises.

We unscrew the screws, take off the covers and explore the claims and the reality. Is the A400 going to be serious competition in the world of 'serious' computing. Come and explore it

PAGE 40



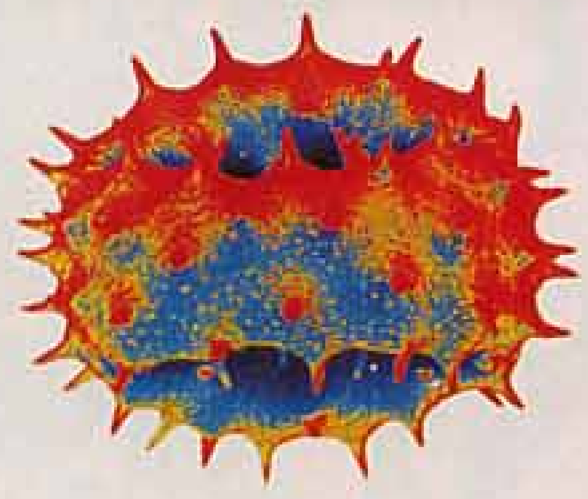
Catalogue of joy

Can't think what to get for yourself (or even for friends and family this year)? Have a look through our lovingly crafted, and just a little tongue in cheek, catalogue of all that's good for the Amiga PAGE 57



Viruses explained

For some reason people still think it's a clever idea to write and distribute viruses. We don't. Happily, there are also people who write anti-virus software. We set out to explore both of these areas of the Amiga's world. Start on... PAGE 211



Game reviews in Screenplay

Welcome to Amiga Format!

As the Conservative government crumbles and the world moans about its own personal recession, it's probably only in the Amiga world that we can safely say 'You've never had it so good!'

This month's big news (and it was enough to make us go 'Wow!' on the cover) is the release of a new Amiga. And not just any old new Amiga, but the machine we'd been fervently hoping for and had begun to believe Commodore wouldn't be able to deliver. It's an amazing new machine.

It's not all you might have wished for – it doesn't have 16-bit sound, it doesn't have a high-density disk drive. But it's a full 32-bit architecture based around a 68020 processor with 2Mb of RAM on board.

But you can read all about it in the News pages. What's important right now is what it means to Amiga owners in the UK.

It means, once again, that there's no question which is the best home computer there is. It means that new people will go into shops, take one look at what an Amiga's doing and say 'Wow! I want one of those!'


Damien Noonan, Editor

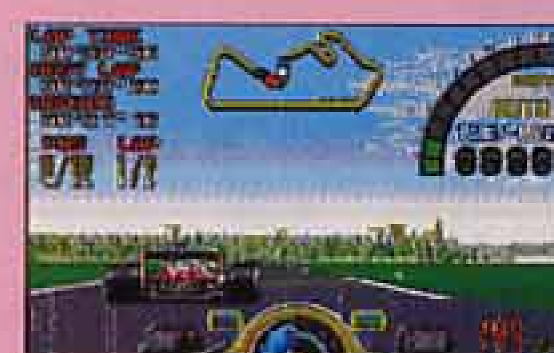
And just to put this in perspective, it's the first development over the A500 that we would honestly say 'Now's the time to think about upgrading'. When the A500 Plus came out, it was a marginally better machine: but it wasn't worth your money to switch. When Workbench 2 became available as an upgrade and when the A600 went on sale, we still wouldn't advise you to abandon your A500 and move up.

But now we're looking at a situation where a real enthusiast's machine has appeared. The Amiga range is looking very different and the dear A500 is beginning to show its age. Don't get trampled in the rush – but do give it careful consideration.

COVERDISK over the page...



Nigel Mansell's World Championship



Join our Nige' as he speeds around the Grand Prix circuits of the world – you could even try and beat him – in this fast action, playable demo.

Wordworth 2



Trying before you buy has always been a good idea, and we continue the tradition with this presentation of Wordworth 2, Digita International's newly upgraded document processor. Don't just look at it though, this is a fully useable demo.



In this month's *Amiga Format* Collection – a series of COMPLETE, FULL-PRICE programs – you get a great world processor ...

Scribble page 15

A word processor – you know that you've needed one for months and months. It's just been more fun to buy a game or a graphics package. Let us solve your dilemma for you by putting a fully fledged, very useable word processing package on to the Coverdisk and into the world-renowned Amiga Format Collection. This is £35 worth of processing power going to you all for the cost of Amiga Format. Use and enjoy (you could even write to us).



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is a tiny big-headed prehistoric lad whose dear girlfriend has been kidnapped by nasty dinosaurs. To find her he will wander through various worlds including the stomach of a gigantic diplodocus and other delirious set ups.





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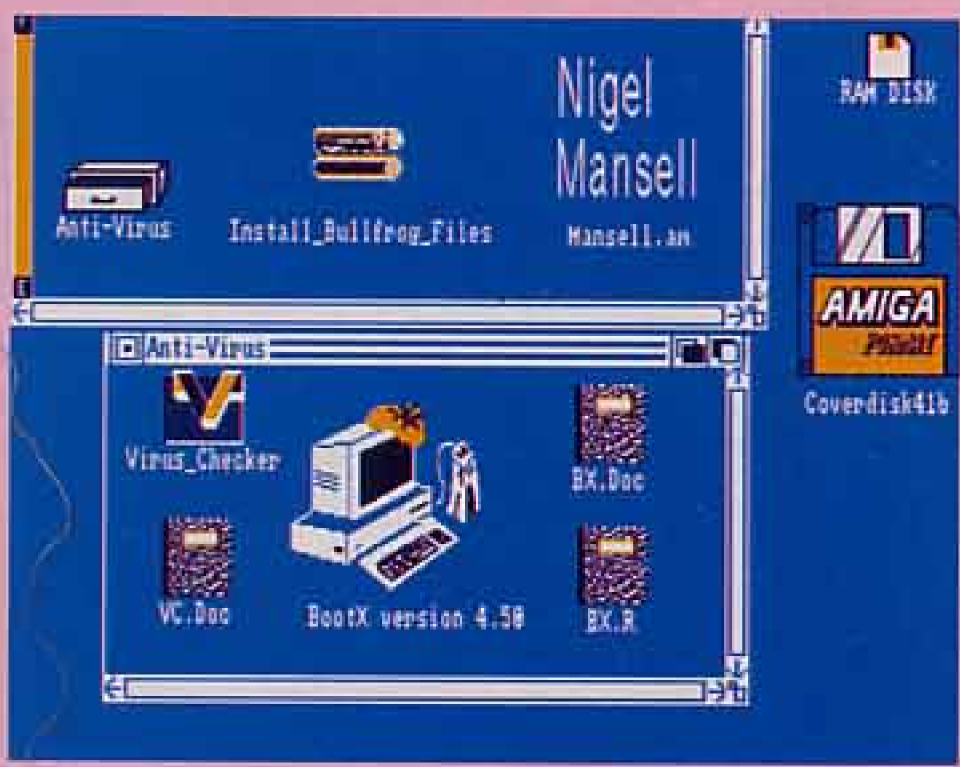
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Coverdisk

Aha, so you spotted those two square plastic things stuck to the front cover, did you? Well, if you don't know what they are or what to do with them, fear not – **Andy Nuttall** and **Pat McDonald** are here to show you round…



Boot the disk, double-click on the disk icon and you'll see this window full of goodies.

GETTING STARTED

Once again, we've got two disks this month. Please note that the Wordworth 2 demo is actually on the *Scribble!* program disk, Coverdisk 41a. The other disk contains the demo of the game *Nigel Mansell*, the virus killer utilities and the Bullfrog's programming tutorial code.

When you're ready to load your Coverdisk 41, take it out of its little packet, and insert it in your Amiga. Now turn the Amiga on or, if it's already on, just reset it by holding down Ctrl and the two keys marked 'A'. You will now find that a basic version of Workbench will load.

A major part of your screen will now be covered by an icon called 'Coverdisk 41b'. Move the mouse pointer over the icon, and double-click with the left mouse button. A window containing three icons will now appear: Anti-Virus, Install_Bullfrog_Files and Mansell.am. Double-click on the icon you require. Details of what to expect when one of the programs loads are on the relevant pages.

When reading a text file such as VC.DOC from the Anti-Virus folder, there is an option to print. However, this will not work unless you boot your own Workbench disk first, then insert the Coverdisk. The reason for this is that the programs which tell the Amiga how to print have not been included on the Coverdisk. To quit out of the document, either press the Esc key or click in the box at the top left-hand side.

Anti-Virus Software

Our feature, starting on page 211, is all about viruses: what they are and what they can do to your Amiga. If you don't want hands-on experience of a virus, it's a good idea to load up an anti-virus program – and luckily for you, we've included two of the best on the disk.

BOOTX

BY PETER STEUR
PAL WB2 ONLY

FIRST, AN APOLOGY: This program will not work from the Coverdisk on Kickstart 1.3 machines. We will try to rectify this next month. In many ways, this is a much more sophisticated anti-virus program than *Virus_Checker*. It does not appear to work in background mode though – that is, you cannot leave it running while you get on with something else.

Instead, you actively use the program to scan through your disk collection. One very clever feature of *BootX* is that, should it find a file that has been crunched with certain program, it will de-crunch the file and search it for viruses afterwards.

An even better feature is that *BootX* can be used to back up your games' bootblocks. This is the most vulnerable part of games disks – many viruses cannot write to the rest of the disk, but most viruses can overwrite bootblocks. A game without the correct bootblock is an unplayable pile of junk.

However, if you back up the bootblock first with this program, then it can be put back on the disk, effectively defeating the virus. True, it is a preventative measure rather than a cure – you have to be conscientious about making copies of bootblocks. But it's better than kissing £30's worth of game goodbye.

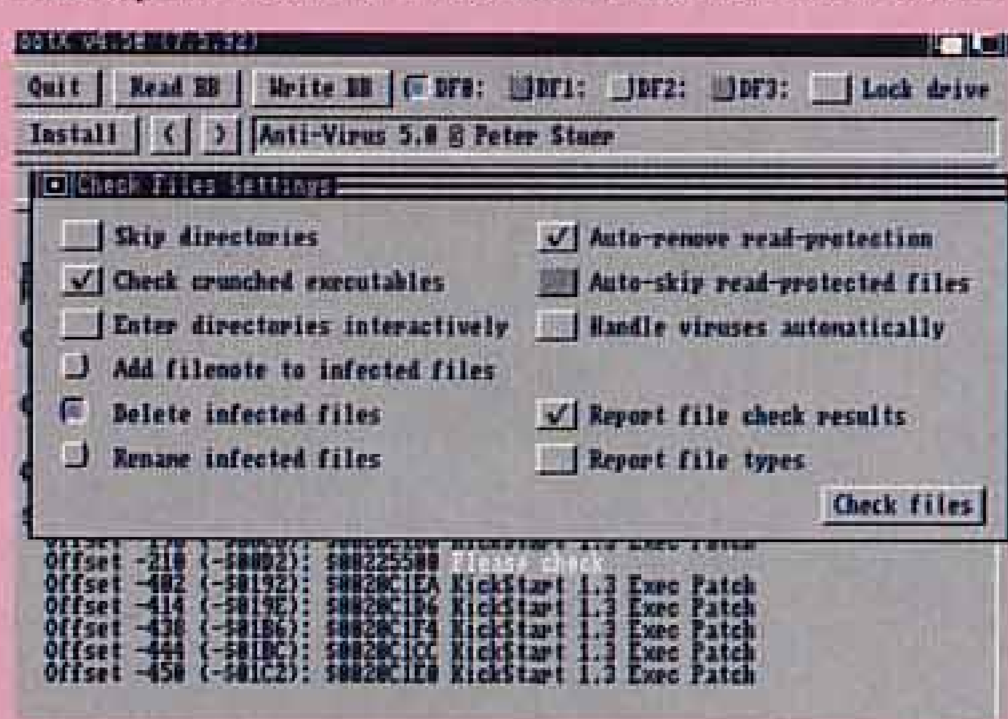
To use it, simply start the Coverdisk as normal, double click on the *Anti-Virus* icon, and then double click again on the *BootX 4.5* icon. This icon, by the way, is commonly found on disks distributed by Safe Hex International, an organisation dedicated to combating the virus menace.

The first thing that *BootX* does is to load up its library of known bootblocks, another one containing all file viruses and a third with boot viruses. A list of known viruses can be obtained by holding down the right mouse button and selecting any of the Show options from the Project menu.

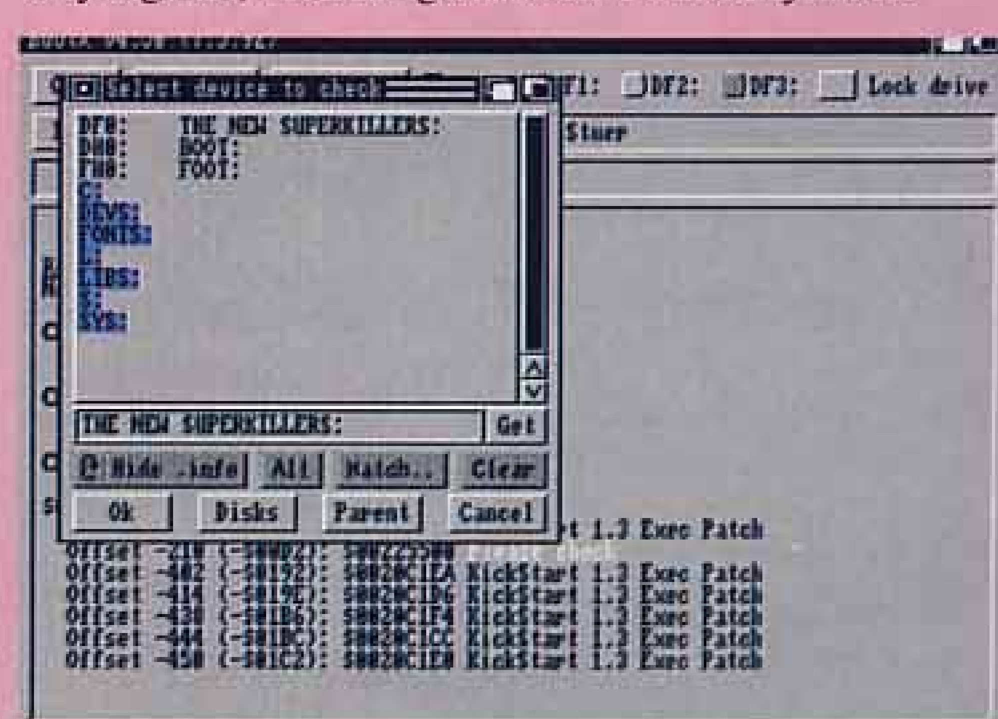
To check a disk for file viruses, select the Check Files option from the Files menu, and then show *BootX* the disk or directory that you want to check. Hopefully you'll all have a really boring time and won't find any viruses in your collection – but I reckon that a few long-term nasties will be found and destroyed just before Christmas.

More information on using the program can be found by double clicking on the documentation files with the letters BX in the title.

BE CAREFUL! we hate to labour a point, but if you come across a bootblock that is of an unknown type, do not Delete it. If you do, and the bootblock turns out to be vital to the running of a program (usually a game) then the game won't work any more.



A number of options are available for scanning through files, including checking crunched (compacted) ones.



Choose which floppy disk or hard drive you want checked by clicking on its name from this menu.

VIRUS_CHECKER

JOHN VELDTHUIS
PAL/NTSC

ONE OF THE more popular pieces of anti-virus software, *Virus_Checker* has been around in various forms on the Amiga since 1989. Since then, of course, plenty of new viruses have arrived and so, in common with most anti-virus software, the program has regularly been updated.

Version 6.15, included here, is the latest release available, and it offers some very powerful features. You may find references to later test releases floating around in the public domain, but none has yet emerged that is as reliable as this one.

When you load up *Virus_Checker* by double-clicking on its icon, a small bar will appear near the top of the screen which shows that the program is resident in memory – that means the checker will stay in your Amiga until you restart the computer or switch it off. This means it's constantly available to check new disks as long as your Amiga is running.

Clicking on the *Virus_Checker* bar makes the window active, then clicking the right mouse button at the top of the screen brings down a menu. This menu is used to configure *Virus_Checker*, so that it can check an entire disk, check your Amiga's memory or check the bootblock of each disk as it is inserted. The latter option is very useful, because you can leave *Virus_Checker* in memory, and rely on it to check every disk you put in the drive and to display a warning message should a dodgy one be used. To use this feature, *Virus_Checker* must be configured as follows:

● Access the Project menu by clicking on the *Virus_Checker* bar and holding down the right mouse button at the top of the screen. Choose Link/File Scan from the menu, and insert a disk into drive df0. Click on the Check Drive icon, then wait until the contents of the disk have been checked. Now choose Save Config from the Project menu. This will tell your Amiga to check all disks as they are inserted.

Once you have gone through this procedure, the program will still not autocheck for viruses straight away. If you stop the program (by clicking the Off button at the left side of the *Virus_Checker* window) and then run it again, the newly changed program will check disks automatically.

If a disk should contain a virus, or have a non-standard format, *Virus_Checker* will display a warning message. If it mentions the word virus in the warning, click on Remove to get rid of it. If it says something like 'This disk has a non-standard boot code' this could mean one of two things…

Either your disk contains a new virus which is not recognised by *Virus_Checker*, which is the less likely option; or the disk has been formatted in an unusual way. The latter is not uncommon – many self-booting disks such as game disks are of this type, and you don't want to destroy the non-standard bootblock of a self-booting disk just because you think it might be a virus – it most probably isn't.

Disks that are in 'foreign' formats (such as PC or Atari ST disks if you use *CrossDOS*) may also be flagged as non-standard, as will unformatted disks.

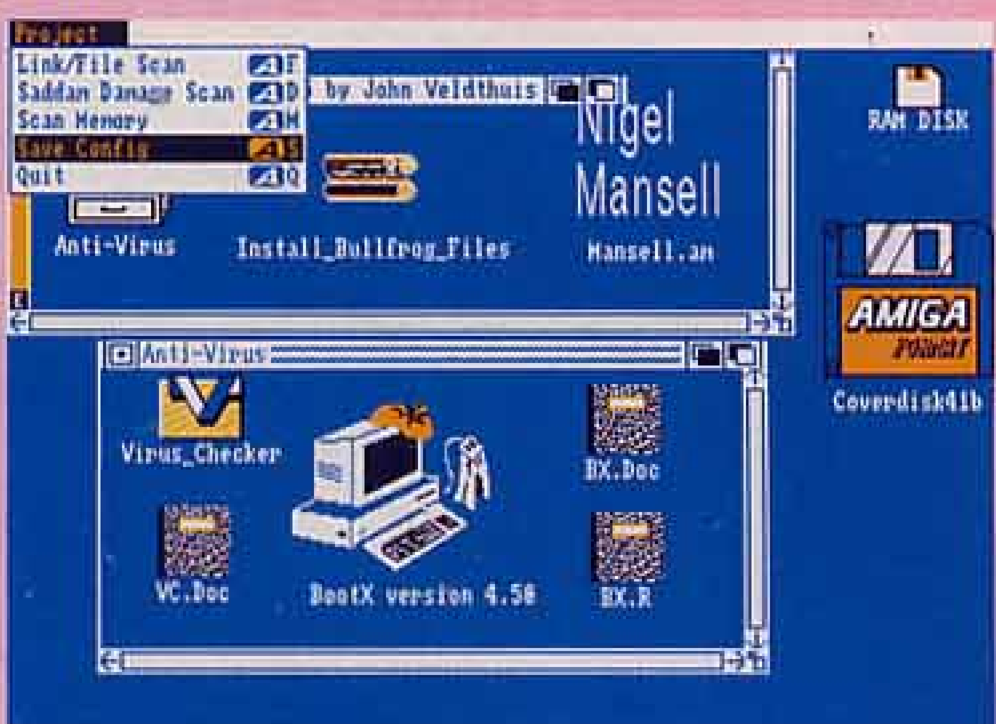
IMPORTANT – Sorry to labour the point, but – only if you see the word 'Virus' should you click on the Remove option. If you start Removing the boot blocks from your game disks, then your games won't work any more. You have been warned!



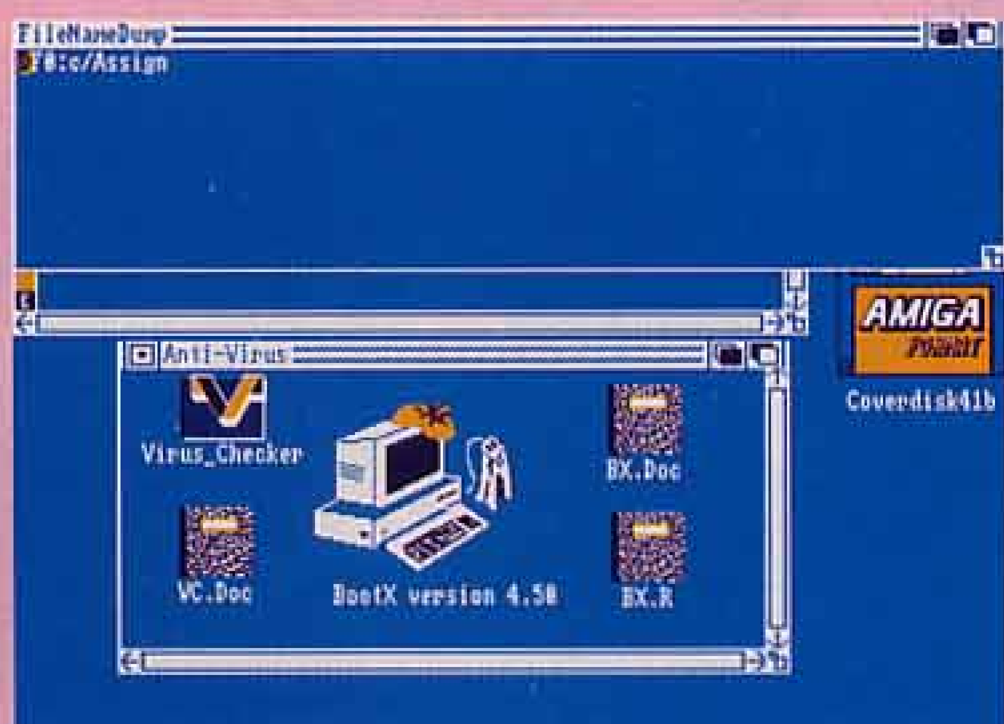
Link and File viruses are much more difficult to find than ordinary bootblock viruses. If you want the program to scan through and check if there are any on your disk, select this menu option.



When you select the Link/File Scan option, you'll be asked to tell the program which drive the disk you want scanned is in. Type the name (for example, df0: for the internal drive) then click on 'Check drive'.



To make sure the program checks every disk you put in the drive, you must use the Save Config option.



A requester will appear asking you where you want to save the configuration to.

INSTALLING VIRUS_CHECKER ONTO YOUR HARD DRIVE

One of the advantages of this program is that it can be installed on your hard drive and booted with Workbench so that it checks every new disk. Here's how to do it: first boot up Workbench from your hard drive as normal, then go into the CLI (Command Line Interface) by double-clicking on the Shell icon. Now insert your Coverdisk into drive DF0: and type the following:

```
COPY DF0:ANTI-VIRUS/VIRUS_CHECKER TO SYS:C
```

The Amiga understands SYS as 'the disk I booted from to start with' – the hard disk.

In addition to copying the main files for *BootX* and *Virus_Checker*, you must also copy VCBrain, VCBrainfile and Virus_Checker.config from the S directory of the Coverdisk.

A common mistake is to wipe the hard disk's start-up sequence; so make sure you have a copy of this apart from the one in the S directory.

Everything in the Libs directory on the Coverdisk must be copied into the corresponding directories on your hard drive. Do this by typing:

```
COPY ALL FROM DF0:LIBS TO SYS:LIBS
```

Lastly, all you need to do is to set up your Workbench so that *Virus_Checker* runs when you switch on your Amiga.

This is quite simple: while you're still in CLI mode, go into the S directory of your hard drive, and type:

```
ED S/STARTUP-SEQUENCE
```

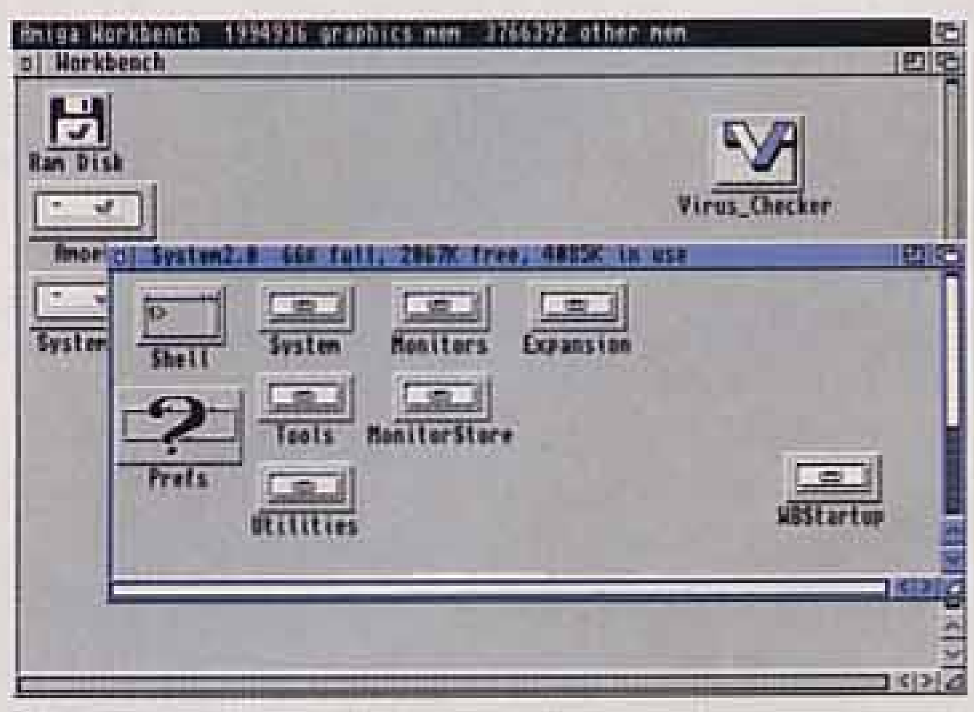
This will bring up a listing of your start-up sequence, which is the file that runs when you switch your Amiga on. You now need to tell the Amiga where to look for the *Virus_Checker* program, and so an extra line needs to be inserted before the command:

```
LoadWB
```

in the start-up sequence. Move down the list using the cursor keys, and press RETURN to create a blank line to insert the required command. In the space, type:

```
VIRUS_CHECKER
```

Now press the Esc key once, then press X followed by RETURN. Your Amiga will now be set up so that *Virus_Checker* will run automatically when you switch on.



With a little care and attention (and not too much time at all) your valuable hard disk can be protected. Simply follow the procedure outlined here.



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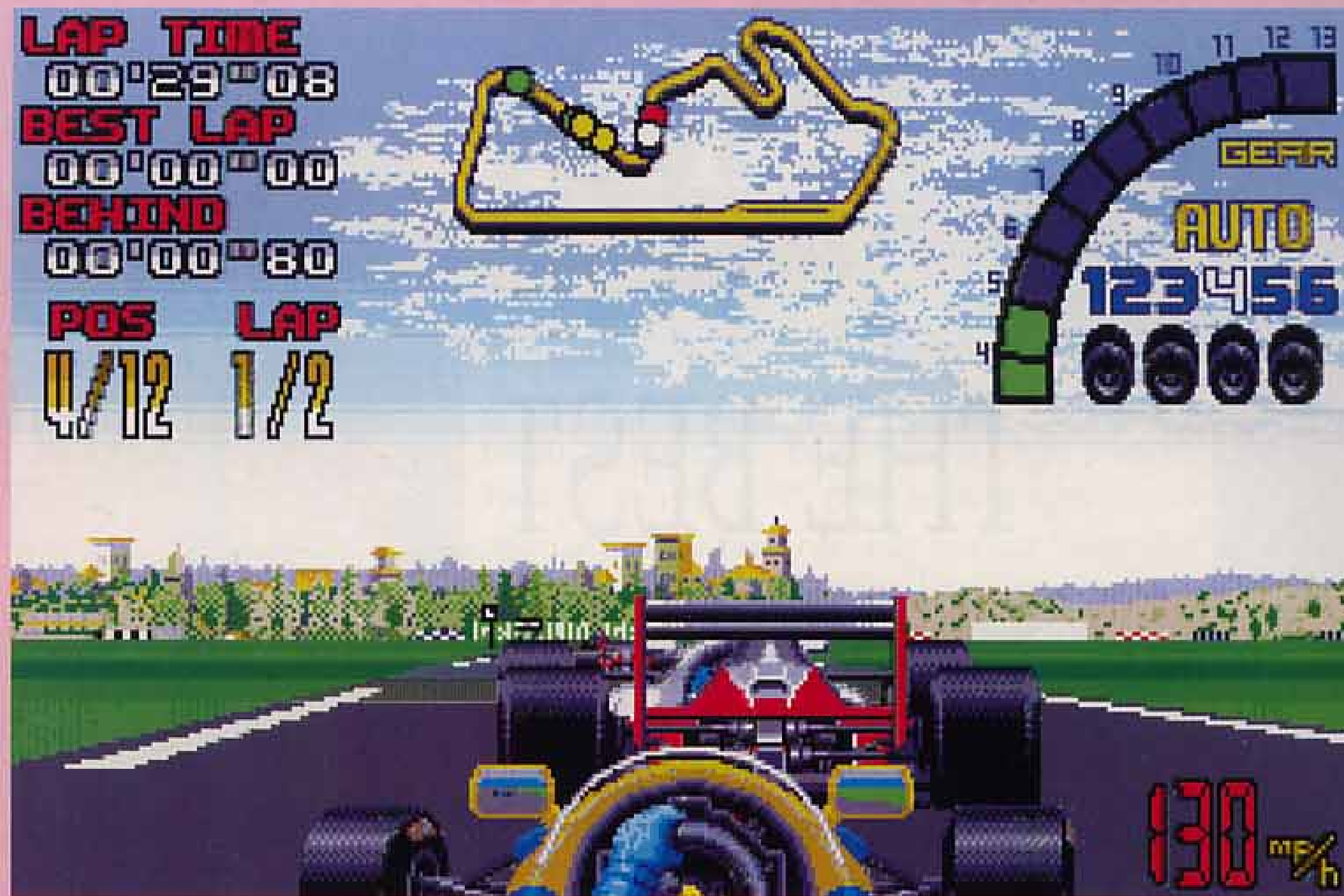


GETTING STARTED NIGEL MANSELL'S WC DEMO

Loading the demo couldn't be simpler: just insert the relevant Coverdisk into your Amiga, reboot or switch on your machine, then wait for the Workbench screen to appear.

Double-click on the disk icon, then on the *Nigel Mansell* icon, and wait. The demo does take ages to load, and will leave the disk drive light on when it has finished loading. Press the Ctrl key and the two Amiga keys either side of the spacebar to get out of the demo.

When the demo has loaded you will be presented with a spinning globe. Get your joystick, and press the fire button a couple of times until the menu screen appears. Now you should press 1 to see a running demo of the game, with your Amiga controlling the car; or press 2 to take on the role of 'our Nige' himself (and hopefully emulate his success).



There's no more exciting place to be than sitting right on Senna's tail and pushing hard to gain the lead.

Nigel Mansell's World Championship

GREMLIN
PAL/NTSC

FANCY THE CHANCE to emulate the great success of Formula One racing champ' Nigel Mansell? Then Gremlin have the game for you in the form of *Nigel Mansell's World Championship*. Strangely enough, the game was to have been called *Nigel Mansell's World Championship Challenge* but after he became World Champion with several rounds to spare, Gremlin decided that they simply had to change the name.

Taking the part of 'our Nige' you must take on the other big names in Formula One, such as Ayrton Senna and Martin Brundle. Try the game out by driving around our exclusive ***Amiga Format*** track which those nice people at Gremlin have created specially.

Follow the 'Getting Started' instructions until you get to the screen with a spinning globe. Pressing the space bar on this page will toggle the on-screen instruments, such as speeds and course map. Keeping the instruments on-screen has the advantage that the game is easier to play (because you can see how fast you're going), but the display rate is slightly reduced – so the gameplay looks slightly less smooth and realistic.

Playing the game is really simple. Wait for the lights to turn green, press and hold the fire button, and accelerate away. Move the joystick left and right to steer, let go of the fire button to brake. Don't worry about the gears – they are automatic on this demo. Watch out, though – you begin the race in twelfth place, and you've only got three laps to catch up, so to win the race you need to know the right tactics.

The most important stage of any race is the start. Without a good start, you won't have a good finish. Keep the fire button pressed when you see the red light, and pull the joystick to the right to take the first bend. If you don't hit anything you can get past eight or nine cars on the first straight. The obstacles on either side make this a very difficult prospect – the later stages of the course have fewer obstacles and so are easier to negotiate.



In demo mode, you can watch the Amiga control all the cars and see how winning is best achieved.



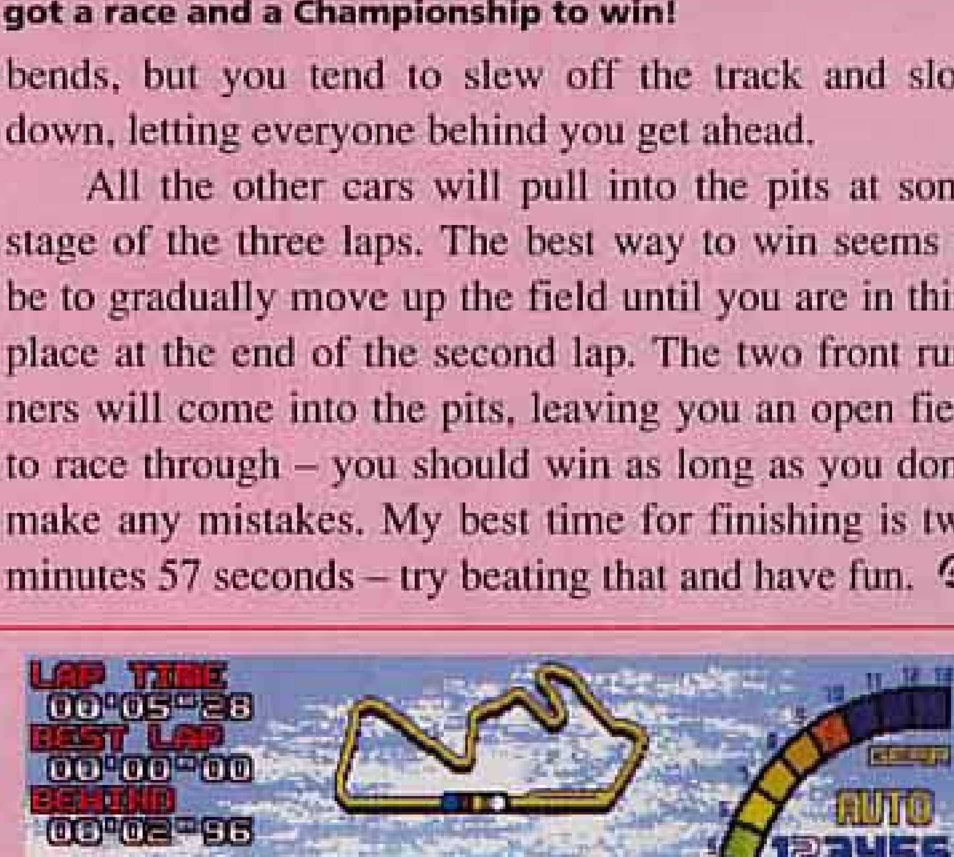
C'mon, fourth place simply isn't good enough! You've got a race and a Championship to win!

Here's some extra controls: first, if you're doing pretty badly, hit the Esc key to go back to the beginning of the demo (don't worry, it doesn't have to load anything again). Overtaking is very tricky, and the best tactic is to build up speed around the bends and try to overtake on the straight. It is possible to overtake on bends, but you tend to slew off the track and slow down, letting everyone behind you get ahead.

All the other cars will pull into the pits at some stage of the three laps. The best way to win seems to be to gradually move up the field until you are in third place at the end of the second lap. The two front runners will come into the pits, leaving you an open field to race through – you should win as long as you don't make any mistakes. My best time for finishing is two minutes 57 seconds – try beating that and have fun.

FIVE WAYS TO WIN

1) A good idea is to swerve violently at speed to overtake groups of cars.
2) You always go faster when you are on the track than off it, so try your best to hold the corners as fast as possible.
3) The tunnel entrance is a major black spot for overtaking. Build up speed but don't manoeuvre too much.
4) Never go into the pit lane by mistake – you will slow right down.
5) Don't hang around behind cars, overtake as soon as you have the speed.



Don't be a pussy! Overtake when and where you can.



It's really very simple to select blocks of text for editing – just point and click three times with the left mouse button.

Wordworth 2



GETTING STARTED WORDWORTH 2 DEMO

Getting the demo running is not too difficult. First, you must load Workbench (any version). Then insert the *Scribble!* disk and double-click on the disk icon when it appears. Double-click on the *Wordworth* drawer and finally double-click again on the *Wordworth 2* demo program icon.

The demo automatically loads a test document which is a big advert for the product. A large graphic 'About' icon will be displayed over this – to get past it, simply click anywhere on it. The more curious may want to read it first.

DIGITA INTERNATIONAL
PAL/NTSC

WORDWORTH **IS, IN** many people's opinions, the best word processor ever created in the UK. While many are not impressed by the program's lack of speed, in terms of user-friendliness and overall power it is widely accepted as the best. One example of the thought that has gone into it is that partially-sighted people are grateful for the program's ability to speak text directly, without having to use a separate utility.

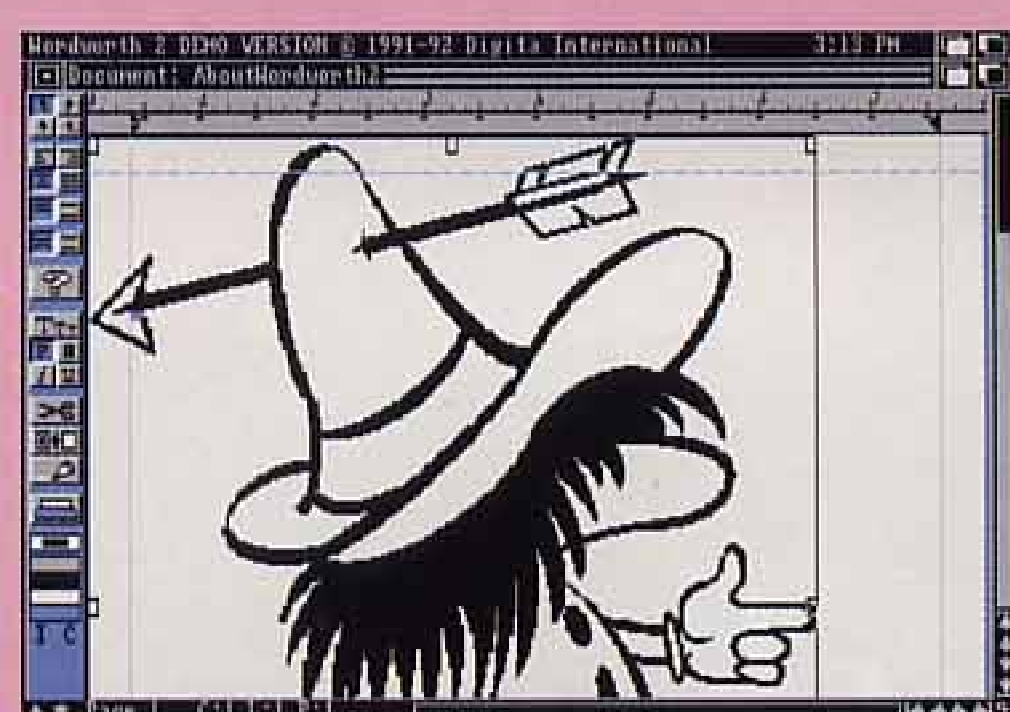
Wordworth 2 is not a simple clean-up and bug-fix type of upgrade. The program has been entirely rewritten. While many of the options remain the same, they have been tweaked both for speed and made more user friendliness. It really is a much better program – which is why there's a big demo to show it off on the *Scribble!* disk.

First, a quick trip around the screen. On the left-hand edge is a column of tools which you can click on with the left button. Across the top of the screen are menus which can be accessed by holding down the right mouse button and moving the mouse pointer over them – release the button to select an option.

Many of the options in the tool column and in the menus are the same, so you can choose which way you prefer to work. Finally, at the right of the tool column and below the menus is the page display, where your precious words appear.

What makes *Wordworth 2* different to some other, less advanced, WP programs is that all the editing that you do to your text is instantly visible on the screen. If you italicise something on-screen, that's how it will end up looking when it is printed out – this technique is known as What You See Is What You Get, or WYSIWYG for short.

Time to find out how to edit a line of text. Move the mouse pointer to a line of text. The line which begins 'Call 0395 270273' will do fine. Holding down the left mouse button and move the mouse left and right – the text over which you move the on-screen cursor is highlighted. You will now be able to make various changes



Pictures, once imported, can be easily re-sized by clicking on them (to select them) and then clicking and dragging the boxes at the corners.

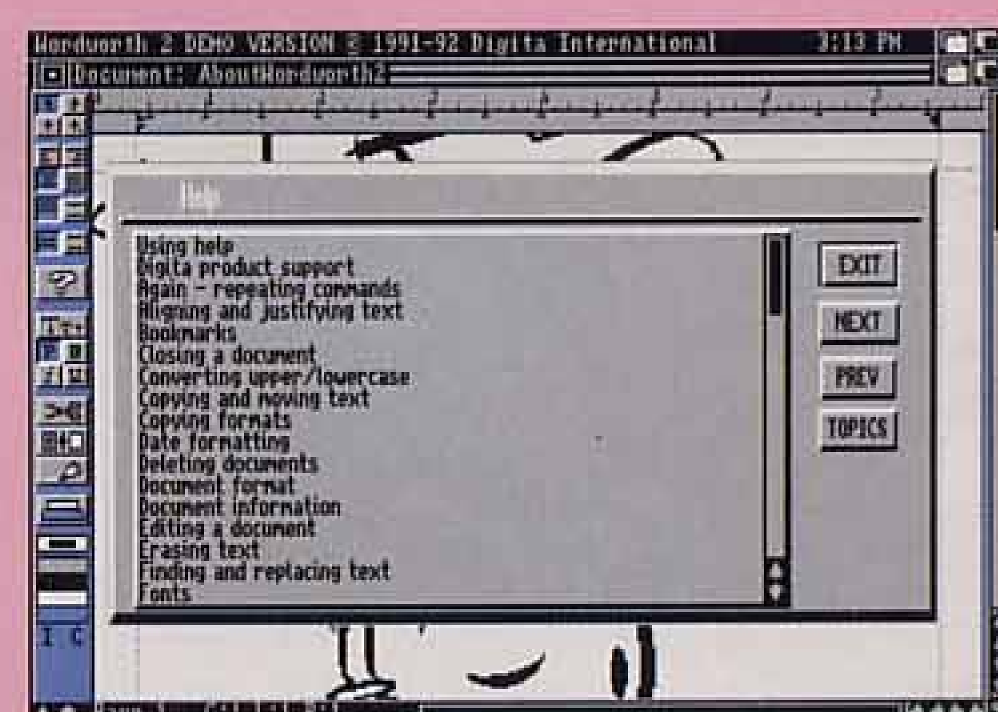
to this highlighted text. Now click the left mouse button it three times in rapid succession – the whole line of text should highlight. This is a convenient way of selecting text a line at a time.

Next, hold down the right mouse button and move the mouse to the 'Format' menu. Move the pointer back down to the 'Typeface >>>' option, and a submenu will be displayed, indicating which fonts are available. The current typeface is CG Palacio 24. CG means CompuGraphic, Palacio is the name of the font and 24 is the point size – how big the font is.

Try selecting a different point size (or a different font) and watch what happens. Chances are the typeface is too big to maintain the whole line, and it will be split up into separate bits. If you hit the Del key, all the highlighted text will be deleted. You can go to the Edit menu and select Erase, but Del is quicker.

Delete all the words on the page (don't worry, they will be re-displayed if you load the demo again). It's time to have a little play with the pictures. To read a picture into *Wordworth 2* is very easy. Hold down the right button, go to the Utilities menu and select Place Picture. A file requester will appear – click on the word 'Clipart', which should be just above the list of disk drives. Click again on the words 'Arrow Head', then on the 'Place' gadget.

A box of choices will then appear. These are used to



To get to the Help facility pictured above, either select Help from the *Wordworth* menu or click on the question mark on the toolbox on the left of the screen.

decide how you want the picture put on the screen. Just click on OK, and the picture will be displayed at the current cursor position. If you click on the picture, you can alter its size and position by clicking the eight boxes (or handles) which surround it.

This picture import facility has been greatly improved over the original version without being lots more complicated. It can import graphic files of many different types: IFFs, PCX, BMP, EPS and other picture formats (you cannot print EPS – Encapsulated PostScript – without a PostScript printer).

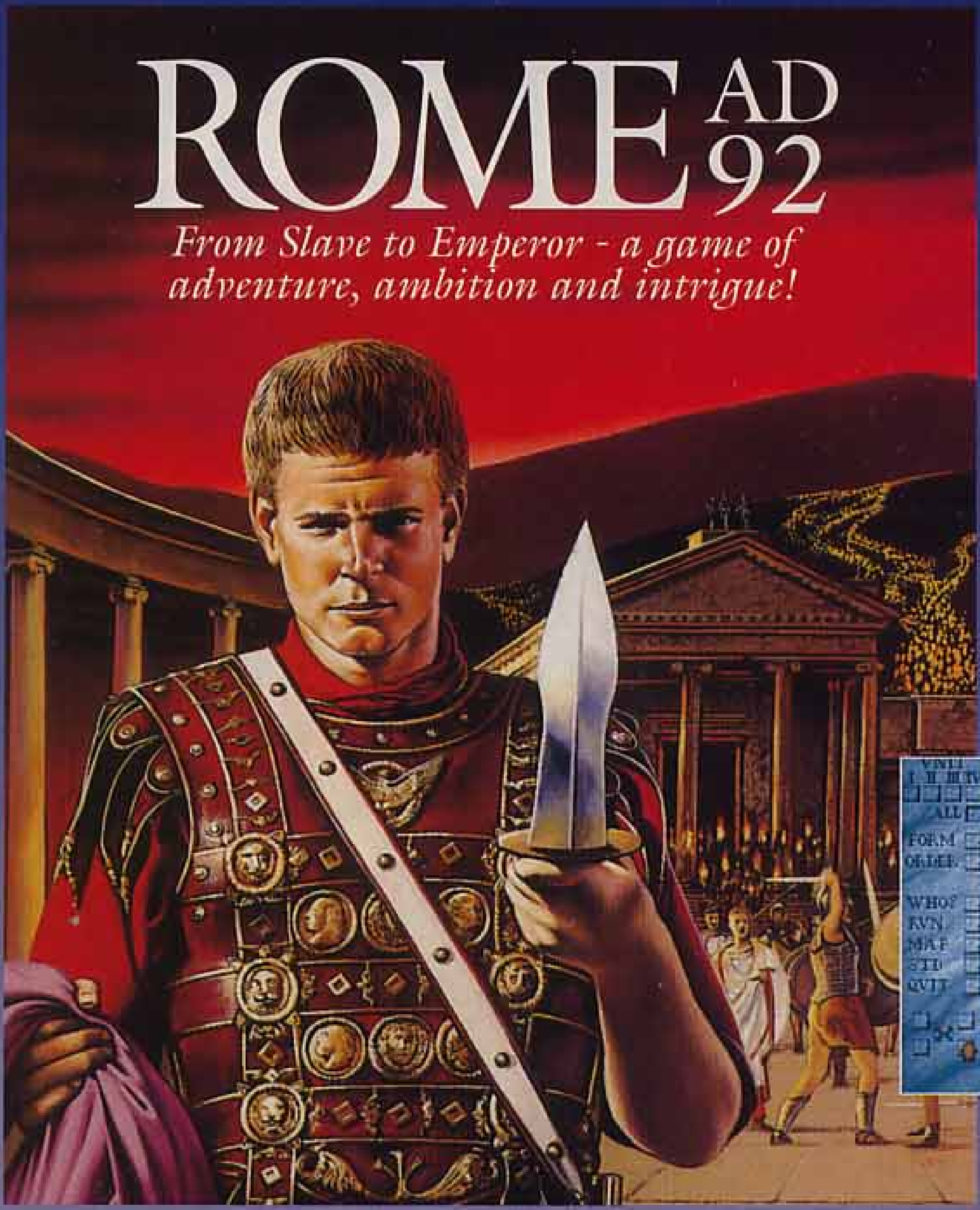
Oops! Ran out of space – you'll have to find out about the remaining 99% of the program yourself!

THE AGFA-COMPUGRAPHIC FONT CG PALACIO

***Amiga Format* and Digita International would like to express their gratitude to AGFA for granting permission to use the CG Palacio typeface on this Coverdisk. CG Palacio appears on this Coverdisk ONLY as part of the *Wordworth* demo, and the copyright remains with AGFA.**

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November release - PC
March 1993 release - Amiga




MILLENNIUM

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When it comes to the ultimate in home entertainment, you won't find anything better than the Amiga CDTV.

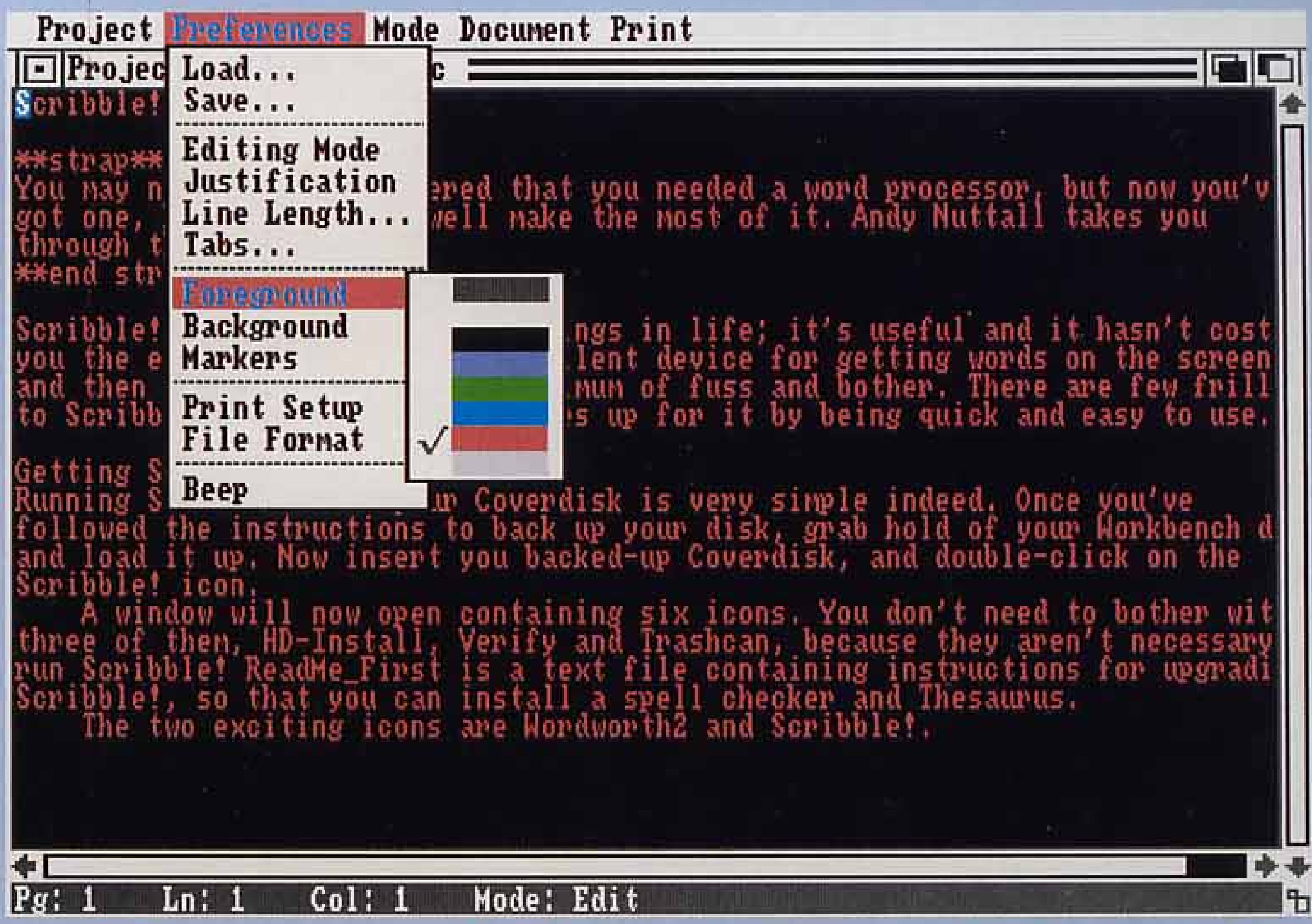
From Commodore

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Scribble!

You may never have considered that you needed a word processor – but now you've got one, hell, you may as well make the most of it. **Andy Nuttall** takes you through the basics...

SCRIBBLE! **IS ONE** of the rare things in life; it's useful and it hasn't cost you the Earth. It is also an excellent device for getting words on the screen and then onto paper with the minimum of fuss and bother. There are few frills (or thrills) to *Scribble!*, but you'll find it's quick and it's easy to use.

GETTING STARTED

Running *Scribble!* from your Coverdisk is very simple indeed. Once you've followed the instructions to back up your disk, grab hold of your Workbench disk and load it up. Now insert your backed-up Coverdisk, and double-click on the *Scribble!* icon.



Double-click on the disk icon and this window appears. Now double-click on the *Scribble!* icon to load it.

A window will now open containing six icons. You don't need to bother with three of them, HD-Install, Verify and Trashcan, because they aren't necessary to run *Scribble!*. `ReadMe_First` is a text file containing instructions for upgrading *Scribble!*, so that you can install a spelling checker and thesaurus.

The two exciting icons are *Wordworth 2* and *Scribble!*. Double-clicking on the former will load the *Wordworth 2* demo. *Scribble!*, as befits its name, loads the main *Scribble!* program.

INSTALLING SCRIBBLE! ON TO YOUR HARD DISK

Although *Scribble!* is quite quick and easy to use from floppy disk, if you're lucky enough to own a hard disk you will find it's better running from that. To install *Scribble!* on to your hard disk, follow the instructions below. Don't use the HDInstall icon supplied with your Coverdisk.

Right, first you need to find a partition on your hard disk with at least 200K of free space on it. Now load up the CLI (Command Line Interface) or Shell and copy the files `Scribble!` and `Scribble!.info` from your Coverdisk onto your free hard disk partition.

When the *Scribble!* program is running, it will sometimes try to access your Coverdisk. So now that you have *Scribble!* on your hard disk, you need to convince your Amiga to use that instead. To do this, you need to edit the startup sequence on your Workbench as follows. With the CLI loaded, change directory to the S directory, and type:

```
ED STARTUP-SEQUENCE
```

In the text file which appears, you will see a LoadWB command near the end. Position the cursor anywhere above this command, and press RETURN. In the space created type:

```
ASSIGN Scribble! <hard disk partition>
```

Where <hard disk partition> is the area of your hard disk which contains the *Scribble!* program; for example DH2: or FH0:. Now press the Esc key once, press the X key, and finally press RETURN. This will save your startup-sequence.

Remove your Coverdisk, and reboot your Amiga. Double-click on the *Scribble!* icon, and the program will load. *Voilá!*

RUNNING SCRIBBLE!

Before you begin, make sure that you have a blank disk available for saving your text files (or a separate directory if you want to save to hard disk). Create a formatted floppy disk by first removing your Coverdisk, then inserting a blank disk into your Amiga's internal drive. Next press and hold the right mouse button, and access the Disk menu at the top of the screen. Highlight Initialize from the menu, then release the button. The formatted disk will be created.

Remove the newly formatted disk, then replace your Coverdisk. OK, now it's time to start scribbling! The *Scribble!* icon should be displayed at the bottom



When *Scribble!* loads, you can begin typing text in to the blank screen immediately.

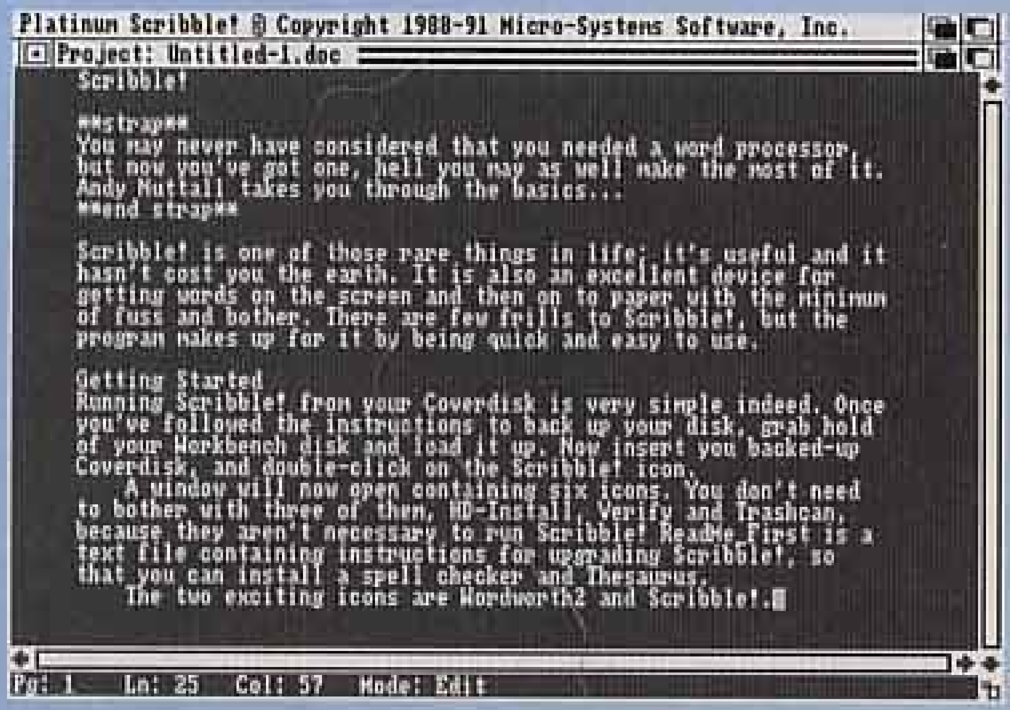
left of your Workbench screen, so double-click on it and wait until the program loads. The screen should turn black, and a menu bar will appear at the top.

As with Workbench, the menu options may be accessed by moving the mouse pointer to the top of the screen and holding down the right mouse button. We will explain these options later on, but first let's go through the basics of using *Scribble!* to write text.

The main part of the screen, which is now blank, is the part which you use to enter text. Try ➧

typing some words now, and you will see that the letters you type will appear on the screen. When a whole line is filled, the cursor will automatically move down to the next line and begin displaying words there instead. This automatic process is called 'word wrapping', and is one of the main differences between typewriting and word processing.

Although you can let *Scribble!* decide where to end the lines for you, it is quite safe to press Return to force the end of a line. It is sometimes necessary to do this; for example at the end of a paragraph, or if you want to create a blank line.

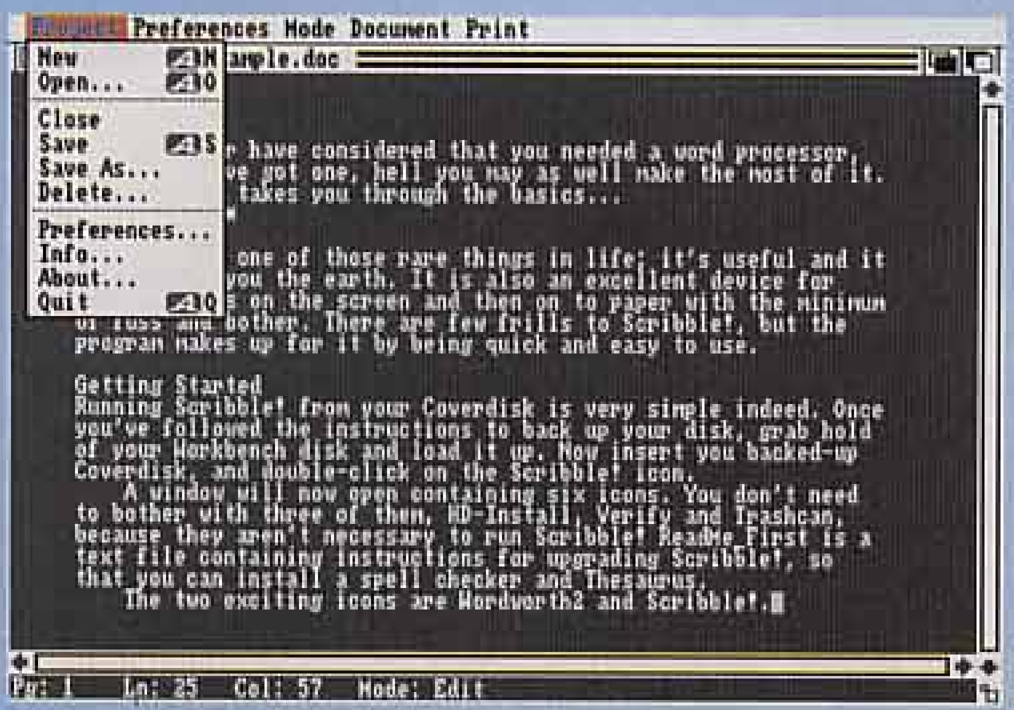


By the time you've typed in some text, it should look something like this.

If you make a mistake in typing text, correcting it couldn't be simpler. There are two special keys on your Amiga which are dedicated to editing text: Erase (the backwards-pointing arrow), on the top left of your keyboard; and Delete (Del) just above the cursor keys. Using the cursor keys, move the cursor to the position of your mistake, then you can use Erase to remove characters to the left of the cursor, or Delete to remove characters to the right of the cursor.

It will sometimes be necessary to separate your text into paragraphs. The first line of each paragraph should be indented using the Tabulate key (showing an arrow pointing to the right, with a line across the point of the arrow) which is located just above Caps Lock on the left side of your keyboard.

PROJECT MENU



The Project menu enables you to manage your documents, both on screen and on disk.

Right, now that you have some text on the screen, it's a good idea to save it to disk. Move the mouse pointer to the top of the screen, and hold down the right mouse button. Move the cursor across until the Project menu appears, then pull the cursor down until the Save option is highlighted. Let the button go, and the screen should now look something like the picture below.

The large box in the centre contains two black lines labelled Path: and File:. These are the areas which inform *Scribble!* about the files on disk. Click the pointer on the Path: area, and type the disk name where you want to store your files (such as df0: for your floppy drive), or click on the Volume icon to change between available disks. If you want to store the file in a particular drawer on the disk, also enter this in the path, as you would do with any other Amiga function.

Next click the pointer on the File: area, and type the name you wish to call your text file. It's usual to give the name a three-letter 'extension' after a full stop (such as .DOC or .TXT) so that you can easily locate your text files. Finally click on the Save icon to save your file to disk.

Now it's a good idea to try some of the other file options. Choose Close from the Project menu, and the text you have just typed will disappear. You can reload



When you're writing text, it's a good idea to save it regularly just in case the Amiga crashes.

it from disk by choosing Open from the Projects menu, and double-clicking on the name of your file.

Delete enables you to remove a text file from disk, while New opens up another text window while the previous one is still open. The latter option is useful if you wish to compare two documents – you can swap between the two by clicking on one of the two boxes at the top right-hand corner of the window.

Right, now that we've gone, through the basics of manipulating text on disk, lets go through the other menu options which are available.

Selecting Preferences from the Projects menu will bring up a window which can be used to change the on-screen colours.

Info is a useful feature which tells you all about the current set-up of *Scribble!*.



The Preferences screen enables you to alter various aspects of the screen display, such as the colours used.

PREFERENCES MENU

The current Preferences set-up can be saved to disk using the Save option from this menu. The file which is created will be given the extension .FMT, which means that it is a text-formatting file, as opposed to a document. The preferences may be loaded back in at any time using the Load option.

Some options will offer you a sub-menu, and one such option is Editing. Using this you can set the text entry mode to Overtype or Insert. Overtype causes the entered characters to overwrite those which are already on screen, whereas Insert will create space for the entered characters within the document. Try setting both options and typing – you'll notice the difference.



The Preferences menu controls certain items of *Scribble!*'s appearance and editing actions.



Set *Scribble!* into Overtype or Insert mode using the Editing Mode option.



Using Justification, you can make your document text flush on the right-hand side, or leave it 'ragged'...

The Justify option controls whether the text appears on the screen as Justified (flush on the left and right-hand side), or Ragged (flush on the left-hand side only).

When your text is justified, *Scribble!* will automatically insert spaces in your document so the text moves until it's flush on the right-hand side. These spaces are different from the ones you make using the space-bar of your Amiga, and they can be highlighted by pressing Shift-F10.

The Line Length command enables you to set the screen line length to match the printed line length. The length is set to 65 characters, so if your printer is capable of printing more characters per line than this set the Line Length to the required value. ▶



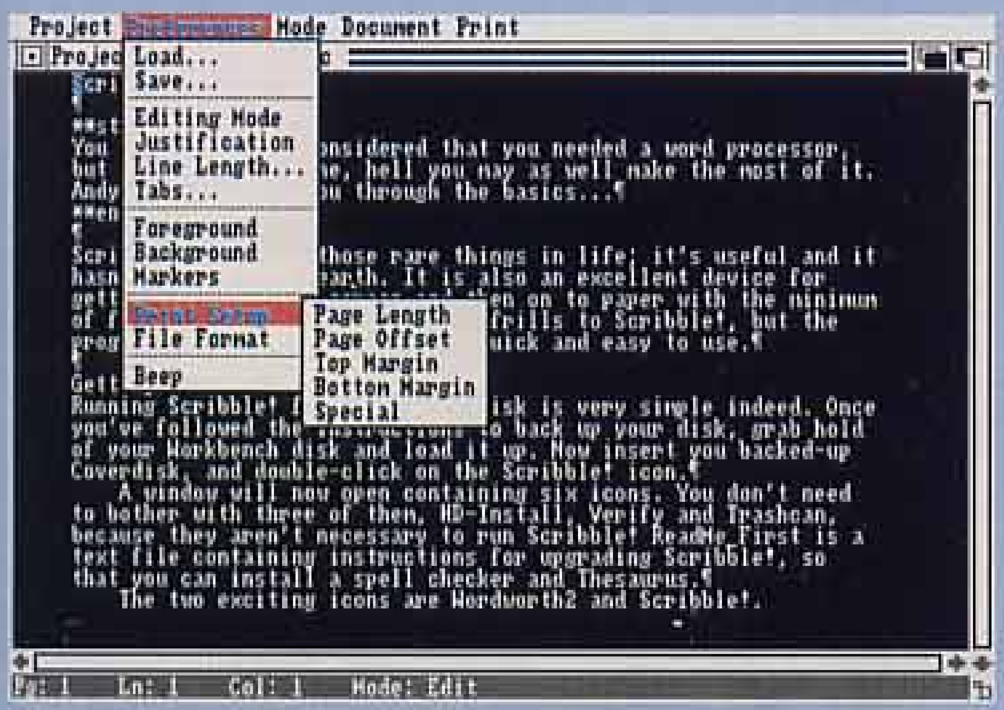
You can select the foreground (text) or the background colour from the eight colours that are available.

The Tabs option sets the required position of the tab stops, or where the cursor moves to when you hit the tab key on your Amiga.

The values correspond to the character positions on your screen, and each must be separated by a comma (,). The normal values are 5 and 45.

The Foreground and Background options on this menu options enable you to select the foreground and background colours of your text window from the available eight. This is merely to suit your own taste for on-screen display, and will have no effect on the contents or the printing colour of your document.

The Markers option toggles the document markers on or off. The markers show where the Return key has been pressed within a document. Even when displayed on the screen, they will not be printed by your printer.



Using the Print Setup option you can format and prepare your document for printing.

The Print Setup options enable you to format your document, choosing how it will look when output via your printer. They are used as follows:

● Page Length: sets the height of your 'physical' page, or how many lines are printed on each page by your printer.

● Page Offset: the number of spaces that will be printed to the left of each line of text during printout.

● Top Margin: the number of lines which *Scribble!* will skip at the top of each printed page.

● Bottom Margin: the number of lines which *Scribble!* will skip at the bottom of each printed page.

● Special: enables you to send special 'escape codes' to your printer, which are used for formatting text. Sometimes, your printer driver won't enables certain codes to be passed to your printer, so you can force them through here. Consult your printer manual for the specific escape codes.

The three File Format options are used to alter how *Scribble!* stores the end of a line when your document is saved to disk. You can either set it to Line Feed (LF) only, Carriage Return (CR) only, or both LF and CR together. The default is LF only, but some printers require either CR or both to be set in order to operate correctly. Again, it's best to consult your printer manual if you're not sure.

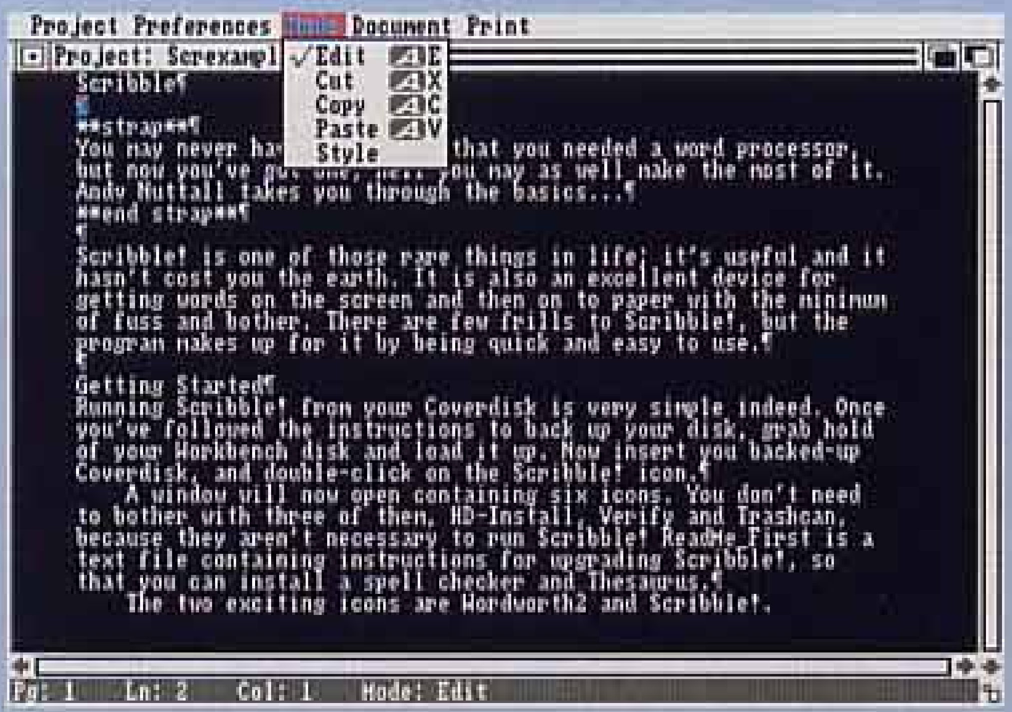
The Beep option toggles the beep warning on or off. If it's set to On, *Scribble!* will beep at you if you make a mistake.

MODE MENU

Scribble! defaults to Edit mode when you first load the program up. In this mode the mouse pointer appears in the shape of a pencil, and when you point and click on an area of text, the cursor will immediately move there.

The Cut and Copy modes are similar to each other in that they are used to pull out bits of text from your document, while the Paste mode is used to insert the Cut or Copied text back into your document.

You may decide, for instance, that a paragraph of your document may be better positioned elsewhere. What you should do, then, is to use the Cut mode to



The Mode menu enables you to move or cut sections of text, and apply different styles to parts of your text.

pull out the paragraph and move it to the new position. The Copy mode works in a similar fashion, but true to its name it doesn't actually remove the original text, but just copies it.

In Cut mode the cursor appears as a pair of scissors. To cut out a block of text move the cursor to the beginning of the block, press and hold the left mouse button, then drag the pointer down until all the text you require is highlighted. When you release the button, the highlighted text will disappear.

To copy a piece of text, select Copy mode (the cursor will appear as a camera), and then use the same procedure as for Cut mode.

To put the Cut or Copied text into the required position in your document, position the cursor using the mouse and click the left mouse button. You may paste the text as many times as you wish.



Use Style to change the way your text is displayed on screen, and printed via your printer.

Various text styles are available via the Style menu. Simply select the style you wish from the menu, and you will see that the mouse pointer appears as a paint brush. Now move the cursor to the beginning of the text you wish to style, then click and hold the left mouse button. Drag the pointer down to the end of the required text, and let go. *Scribble!* will then work out the styles, and display the results a few seconds later.

There are six text styles available: Plain, **Bold**, *Italic*, Underline, Superscript and Subscript.

DOCUMENT MENU

Sometimes you will find it necessary to locate a particular word or phrase within your document. To do this, simply select the Find option, then type in the required text. Hit Return, and *Scribble!* will move the cursor to the start of the located text. If it doesn't find it, it will come up with an error message.

The Replace option can only be used after *Scribble!* has already located a piece of incorrect text. Select Replace, then type in the text you wish to change to. Hit Return, and *Scribble!* will highlight the located text, and display a menu like the one below.

Click on Skip to move to the next location, Change to replace the text with the new version, All to change every matching piece of text, or Quit to stop.



Once you've found a chunk of text within your document, you can change it easily using the Replace option.

This is particularly useful if you want to change a piece of text that occurs lots of times in your document – like changing a name that you have spelt incorrectly, for example.

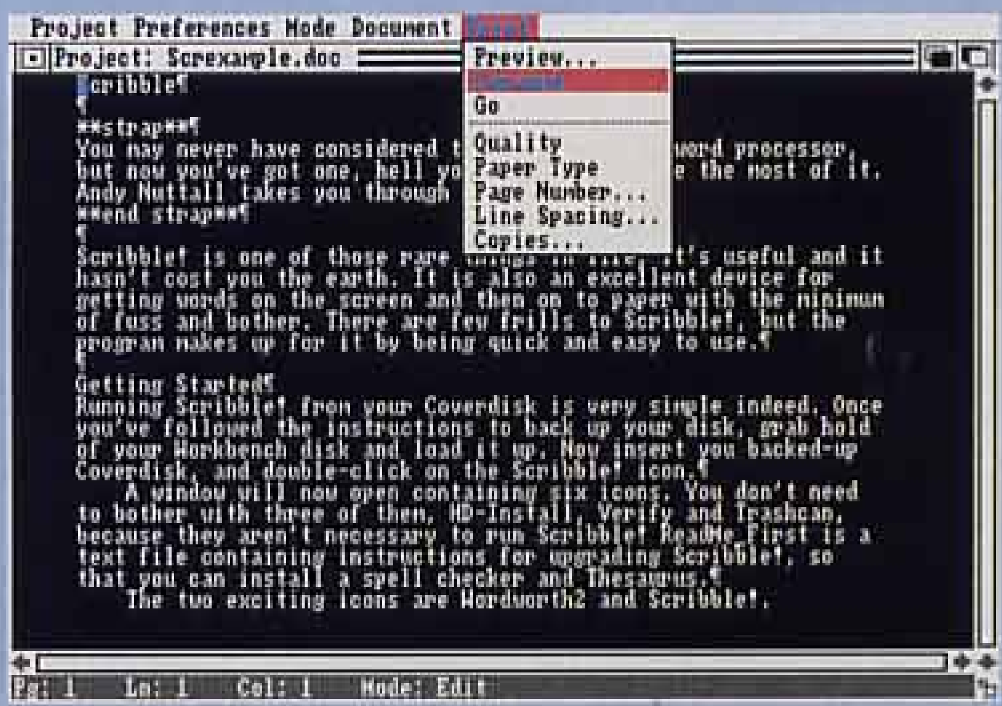
THE PRINT MENU

This controls the way your document looks when it comes out of your printer. The commands are explained below:

● Preview: this enables you to view your document on-screen as though it were printed out on paper.

● Forward: using Forward you can print out your document from the cursor position onwards.

● Go: this command is used to start your printout. You can choose Go Printer, which sends the current document to your printer, or Go File, which writes it to a text file on disk.



When you're ready to print, access the Print menu to control the final copy of your document.

● Quality: If your printer supports both Draft and NLQ modes, this option switches between the two.

● Paper Type: This command tells *Scribble!* whether you are printing on continuous feed paper (Fanfold) or single sheets (Single).

● Page Number: Tells *Scribble!* to begin numbering pages for the current document with a value other than 1.

● Line Spacing: This command sets the line spacing that *Scribble!* uses when it's printing your document. The default setting of 1 produces single-spaced text, while 2 produces double-spaced text and so on ad infinitum.

● Copies: tells *Scribble!* how many copies of the current document to print.

And there you go! Hopefully, that should get you well on the way to top-class WP: best of luck!

EXPANSION POTENTIAL

Unfortunately, the Spell Checker and Thesaurus options could not be included on this version of *Scribble!* The good news is, we've arranged with HB Marketing (0753 686000) to supply a Supplement disk as well as a complete manual at a bargain-basement cost of only £7.99!

Using Your Coverdisks

1. Always write-protect your Coverdisks. Move the tab so a hole is showing.

2. Copy the Coverdisks and use the copies, not the originals. This may sound like a complicated task, suitable only for techno buffs, but it's surprisingly simple to do, just follow the simple instructions for copying the disk which are given below.

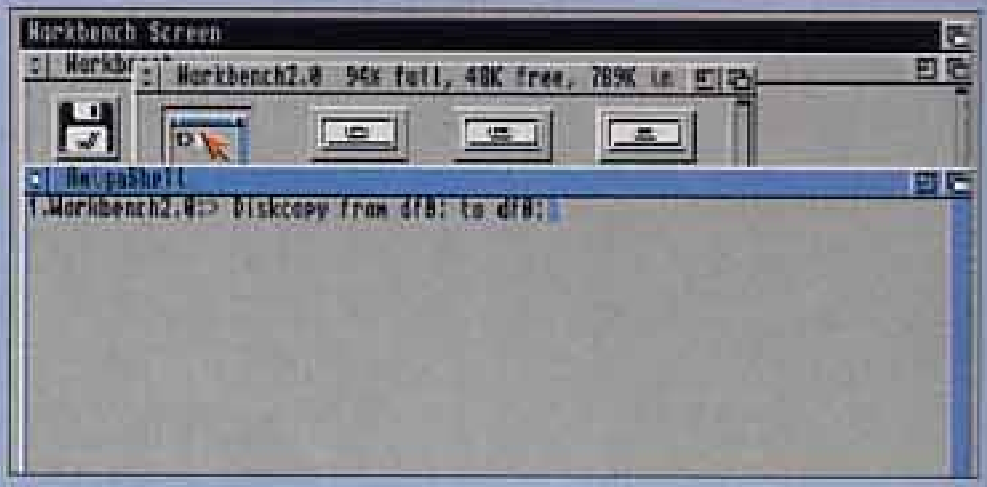
3. Read the instructions when using the programs.

Backing up your Disk

There are two ways of making a copy of your disk, and this is the easy one. Don't be daunted by the fact that you need to use the Shell or CLI: it's actually a lot easier than you might think. Just follow these simple steps...



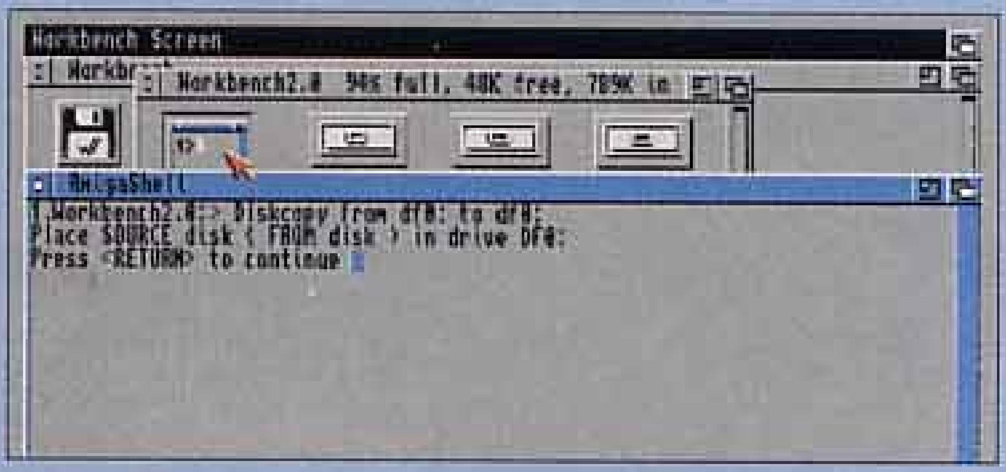
1 Load your Workbench disk. Open the disk, find the icon that says Shell or CLI and double-click on it.



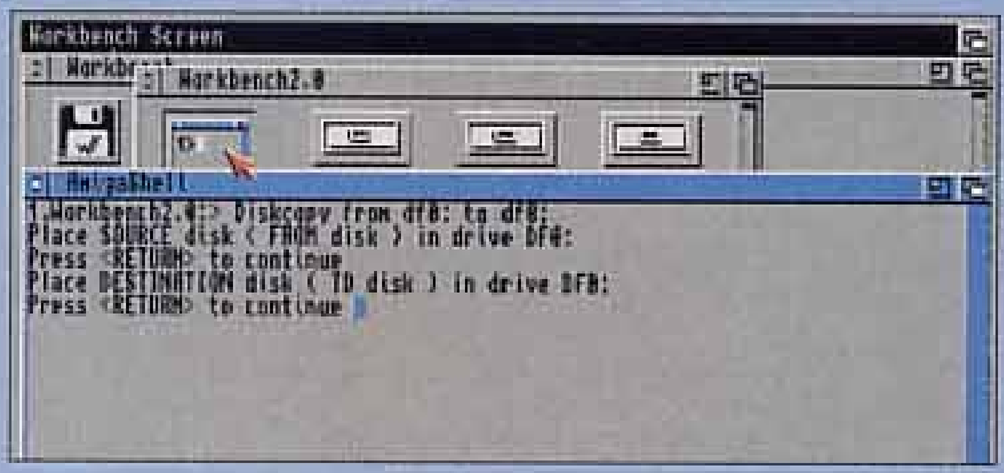
2 When the Shell window appears and the drive light is out, type in:

`Diskcopy from DF0: to DF0:`

and press the Return key.



3. The Amiga will now ask you to insert the 'source' disk. It means the disk you want to copy, so put the Coverdisk in the drive and press the Return key.



4. Wait for a while and it will read all the information off the Coverdisk, telling you how far it has got. Then it will ask you to insert the 'Destination' disk. Put the disk you want to copy your Coverdisk on to in the drive and press the Return key. Note that the disk does not need to be formatted already.



5. Put the source disk and destination disk in a couple more times when the Amiga asks for them. When it says "Diskcopy Finished" just type in:

`endcli`

to get out of the Shell or CLI. You may have to put the Workbench disk in again. Now your copy is ready!

DISK PROBLEMS?

If you have a problem with the disk – and you're sure the disk is in full working order – then you may need a little help. If you ring us on any Tuesday between 11am-7pm, and ask to speak to Pat McDonald, he will do his best to help you. Please understand, giving this sort of advice is time-consuming so only call if you really have to and do be considerate if we can't talk to you just then. If the problem is particularly complex it is better to send it to us in written detail. It will then be dealt with in the Workbench pages of the magazine.

BE CAREFUL!

We have done our best to check that all of the programs on the ***Amiga Format*** Coverdisk are simple to use and have no viruses. We cannot usually answer complex telephone queries on the software (see the Disk Problems? box) and we do not accept liability for any consequences of using the numerous programs that are on the disk.

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Because some of the programs on the Coverdisks are not PD, selling or distributing them without the copyright-holder's specific permission is against the law.

Disk not working?

We duplicate nearly 500,000 disks every month. Out of all those, obviously a few will be faulty. If the disk or any of the programs will not load or run properly, there may be a problem. Don't panic!

First try using the *DiskDoctor* utility on your Workbench disk to rescue it before sending it off for a replacement. Full details of *DiskDoctor* can be found in the user's manual that came with your machine.

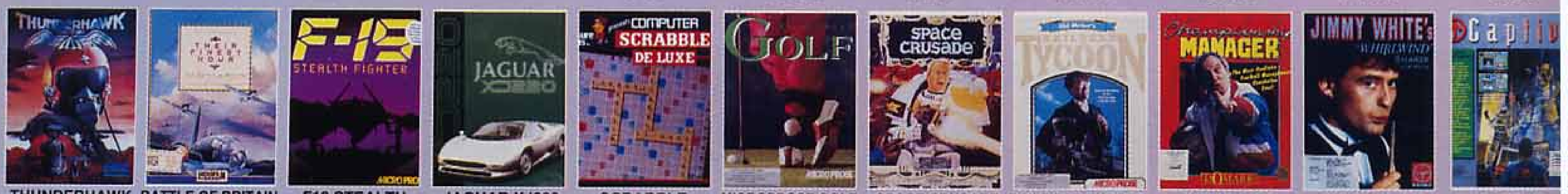
However, if your Coverdisk is faulty, you should send it back (with a brief note explaining what's wrong with the disk) including A STAMPED, ADDRESSED ENVELOPE for a free replacement within one month of the cover date to this address...

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A 2Mb, 32-bit, 68020-based computer all for £399? You'd better believe it. It's the new A1200, it's just been launched, enhanced software is currently being programmed and it's going to be mega.

The amazing new

The surprise release of the year, possibly even of the decade, this new Amiga breaks completely new ground. It's faster, more powerful and has more colours than anything you've ever seen at this price. **Damien Noonan** reveals the details and discusses the astonishing implications...

YOU CAN'T HELP being impressed. This is the machine we've all been waiting for, though we couldn't have imagined Commodore would release it now. This is one hell of an Amiga.

So you want details? Well, almost everything you could wish to see updated, enhanced or improved has been. The old Motorola 68000 CPU (Central Processing Unit) is replaced by a faster 68020. Consequently, the whole architecture has been developed on a 32-bit pattern, which maximises the speed gain from the fast processor and makes this a true 32-bit, rather than a 16-bit, Amiga.

Memory capacity is doubled to 2Mb of 32-bit chip RAM. The old custom chip set (Paula, Agnus and Denise) has been replaced by the new 'double-A' chip set (Paula, Lisa and Alice) which first appeared in the Amiga 4000.

As for looks, the case is more or less the same as the A600 except that it's extended to include a numeric keypad (shades of the A500). It shares the same expansion port layout as the A600, with a PCMCIA slot on the left, joystick ports on the right, and an internal IDE connector for a miniature hard drive. It comes equipped with Workbench 3.

The key point, however, is the price. The new machine, with all its vastly superior capabilities, will cost a mere £399.99 – only £100 more than the A600, £50 more than the A600 'Wild, Weird and Wicked' pack and the same price as an A600 was two months ago.

The Amiga 1200 was given its UK launch in London on October 21, with simultaneous launches all over Europe. Rumours and advance news had been minimal, especially considering that a number of software developers had been consulted throughout the development of the machine and had actually been using finished models for several months.

It seems this machine is the concrete reality behind the nebulous myths of an A800 which circulated earlier this year. But the A800 was believed to be a first step on the upgrade path between the A600 and the A3000, whereas this is actually an alternative, more powerful basic Amiga. It repositions the A600 as a basement-level machine, coming in on the A500's home ground.

The 1200 is not a complete surprise, however. ***Amiga Format*** learnt five weeks before the launch that a new Amiga would appear for the first time at the Future Entertainment Show at Earls Court in London in November, where the 1200 features heavily, and we had been able to build up a complete picture of the machine.

Did we believe Commodore would release a 2Mb, 32-bit, 68020-based Amiga at £399? Well, yes. The more powerful chips are barely more expensive to produce than the older ones, since technology inevitably gets cheaper with age.

But we were still relieved, and excited, to see it confirmed. It was a pleasant surprise to find several major software publishers at the launch demonstrating work in progress that will make use of the A1200's extra graphics capabilities. Electronic Arts were showing the new 256-colour *Deluxe Paint IV AA*, while Gremlin and System 3 were showing new versions of *Zool* and *Putty*. Mindscape, MicroProse, Ocean and Psygnosis are all working on new or enhanced A1200 games.



Where's the software?

So are software houses using the new graphics capabilities? And if not, will they be? Well, the signs are good. "Some months ago we gave prototypes to some software houses," says Commodore UK's MD Kelly Sumner.

Commodore believe there will be 15 to 20 enhanced A1200 titles before Christmas. Plus the fact that the earlier Amiga software will run on the 1200. Here's a run-down of what was on show at the launch of the new Amiga. (Originals, not the enhanced versions, are pictured.)

***Deluxe Paint* now has new screen modes built in so it can work in any number of colours up to 256 as well as in HAM and in the new Super HAM modes. This gives it the ability to use more than 260,000 colours on-screen. The screen modes apart, this new version is exactly the same.**

***Zool* and *Putty* are being converted to 256-colour versions. One important difference with these games will be smoother scrolling.**

Mindscape are looking forward to *Wing Commander 2* being transferred from PC to A1200. The big difference will be the speed the 68020 processor offers – *WC 2* will stick with 32-colour graphics. The advantage of the 600 and 1200 is that games will run from internal IDE hard drives, which suits these epic PC games.

Ocean are planning to release three titles in enhanced 256-colour A1200 versions in 1992, with more to follow. One noticeable feature of 1200 games like *WWF2* will be their ability to use larger sprites.

MicroProse have prepared a 256-colour version of *Civilisation*. This is typical of one major influence which will change gaming on the A1200: that many large-scale, VGA adventure and strategy games so beloved of American PC owners and developers will come straight to the Amiga. Better 256-colour graphics and enormous (up to 20Mb) hard-disk-only games are certain to result. While some US creations are a shade gargantuan, there's a wealth of imagination and talent expended on their development and we can expect them to enrich Amiga gaming.

So what of prices? Well, it seems that developers will produce enhanced, A1200 versions of all their games and, if they follow the example set by Ocean, will be very reluctant to charge more for them. Moreover, it seems unlikely that the 'lowest common denominator' type of development, which held Amiga games back a few years ago when developers worked to the Atari ST's 16 colours and limited sound, porting inferior games over to the Amiga, will recur. Developers will work to the capacity of the A1200 and then 'squeeze' games to work on the A600. Which is good news for all of us.



***Zool*'s multi-coloured backgrounds will be enhanced on the A1200 game version.**



Ocean's three A1200 game releases will be *Lethal Weapon*, *Cool World* and *WWF2*.



***DPaint IV* almost had to be extended to utilise the new graphics capabilities.**

Amiga 1200

Which is good news if you're considering buying a 1200. We've been testing the A4000 (see page 40), and the big disappointment is we have no software to run that shows off the new graphics modes in the double-A chip set.

So there's good news on the software support side, but the real excitement about the A1200 is the impressive new hardware. Yet more big numbers. But what do all these extra numbers do? More speed and graphics.

The EC68020 processor is clocked at 14.19 MHz on the PAL machine, which compares with 7.14MHz from the standard 68000 in an A500 or A600. However, the clock speed doesn't tell the whole story. With a 32-bit processor and 32-bit RAM on board, the opportunity to provide 32-bit memory addressing has not been passed up, so that gives a speed increase too.

"We believe from our testing it has roughly five times the processing power of the A600," explains Kelly Sumner, managing director of Commodore UK. In fact this may be an under-estimation. One quality of the double-A chip set is that the speed of the blitter, which has a great deal of involvement in all screen displays, has been vastly improved.

On the graphics side, the 256-colour Amiga game is now a reality. The new chip set makes more colours available and from a wider choice. Rather than the 4,096-colour palette of old, this chip set has a full 24-bit palette, giving a total of 16,777,216 colours and shades of colour to choose from.

The standard maximum display is now 8-bit rather than 5-bit, which means games will be able to have 256 colours rather than 32 maximum. Very good news, but there's more to come.

There will be a new equivalent of HAM mode, too. Working on a 6-bit rather than 4-bit base gives 262,144 colours on the screen rather than the 4,096 of HAM. You're not going to see that appearing in games, though it could be of great use for giving 'screen representations' of true-colour pictures in image processing or the like.

In the past, Commodore have been muddle-headed about the release of new Amigas. The A500 Plus was almost accidentally thrust on to the market. The consequence was that we had plenty of criticisms to make, mainly because the impact on Amiga owners was left out of the equation. The problems with older software not running on the A500 Plus which beset the Amiga last Christmas were the perfect example.

So it's more good news that Commodore seem to know what they're doing this time. Not that there isn't a down-side to this launch.

So let's look at the problems. First, naturally enough, there's the problem of software compatibility. Commodore are making no attempt to claim that 100 per cent compatibility is even likely, with a completely new memory address system and new graphics modes.

How much compatibility is there? "Probably 60 per cent," offers Kelly Sumner. But in actual fact, it seems likely that Commodore are being a shade pessimistic this time around.

Very sensibly, Commodore have built in a fall-back mode which enables the new chip set to emulate the old custom chips. This is done by way of a new boot selector screen – hold down both mouse buttons while the Amiga is booting and, as well as being able to choose which drive to boot from, you can choose which chip set to boot up with. Pretty impressive.

Though there are other reasons for software not to run, this chip-switching does eliminate a a lot of potential compatibility problems. Which is why much more than 60 per cent of older software could run on the A1200. Ocean's senior software manager, Colin Gordon, commented: "We've tested all our games up to a year-and-a-half old and only two didn't run." They were *WWF Wrestling* and *Epic*, if you're curious.

Colin believes the problem with *WWF* is a simple one and could easily be fixed, if there were good reason to do so, while they're not really sure why *Epic* won't run. Ocean have been testing

Continued overleaf

all their software on an A3000 to check that it works with faster processors and enhanced chips.

So Commodore aren't pretending there will be no compatibility problem. On the contrary, they may be making it sound worse than it is. But there is another obvious case to raise against the A1200: surely it will put the A600 in the shade. So how do Commodore see the two co-existing?

Won't the 1200 make a huge dent in the sales of the 600? Certainly not in the short term. The bad news is that pre-Christmas only 30,000 will be sold in the UK. With limited production facilities and a sure-fire winner in the A600 anyway, Commodore UK could not get their hands on any more.

But what happens next year? "The way we see the A600/1200 is the 600 will become the C64 of the Nineties – the entry-level machine – while the 1200 is the aspirational machine," says Kelly Sumner. Which has more than one possible interpretation.

Clearly, the A600 is successful in its own right, as indeed it deserves to be and as the A500 was before it.

Commodore's research reveals that of all toys and hobbies, computer games are most popular with youngsters. And if price were no problem, the Amiga would be the machine of preference.

"We have something in the region of 1.3, 1.4 million Amigas in the country," Kelly Sumner told the press gathered at the 1200 launch. "We believe the Amiga is still the state-of-the-art. Just for the record, last month we sold 64,000 Amigas in the UK – which wasn't quite a record, but it was close."

Most of the new Amigas have been A600s. "It's more cost-effective and, more importantly to us, it's more reliable [than the A500]," says Kelly. The bottom line is that for the majority of people who want to buy an Amiga this year, the A600 is what they are expecting to wander into Dixons and pick up. The new machine is not likely to clash.

That apart, there's still a price gap: a £299 A600 is a far cry from a £399 A1200. But, as Commodore hope, the 1200 is going to take up the traditional Amiga role of 'the machine to have', even though it costs more: it is the aspirational machine, the computer with the 'wow! factor'.

A potential scenario, then, sees the A600 as a true console-beating, C64-style low-cost computer, with a further price drop from £299. For now, though, we can be safe in the knowledge that the basic A600 is still one hell of a computer – and the aspirational A1200 is a demon machine.

If you're wondering what's next, consider this: Commodore have more machines on the way yet, we reckon. Next year could well bring a new A2000-style machine. And by the end of next year, we're going to see the first true CD-driven Amiga.

The impact of A1200 hardware on gaming

So how will the new hardware – the double-A chip set, 2Mb of chip RAM and so on – affect the development of games? We asked a number of developers to fill us in.

The main excitement is the new graphics modes offered by double-A chips. While the new 260,000-colour 'Super HAM' mode is too slow to make an impact on gaming, the 256-colour mode will be *very* important.

The first revelation is that arcade games will use 256 colours. The 256-colour 'VGA' mode used by games on the IBM PC and compatibles has set a *de facto* standard over the last two years, but there it's mainly used in adventure games which don't demand speed. We rather thought that 256 colours would enable the American developers of real heavyweight games to port them over to the Amiga easily, but we didn't expect to see 256-colour arcade games like the new WWF Wrestling game, *European Tour Rampage*.

So 256-colour arcade games are in. What do they look like? Well, from what we've seen so far, the difference is very subtle: the extra colours make subtler shading possible, so it's more what you don't notice than what you do notice that makes the difference.

What makes games like *Zool* and *Robocod* so colourful is not the 32 colours of the main screen, but the way the background is filled with a rainbow of colours. This is done by what's known as the copper, a section of the graphics chip that is able to switch to a new colour on the palette on every 'scan line' as the picture is built up by the beam moving down the TV screen. Will this change? Well, it seems that with the 24-bit palette we'll see ever subtler skies and backgrounds, with hundreds of shades of similar colours. Less gaudy, more realistic.

Speed is clearly no problem. As well as the faster processor, the 32-bit memory access makes a big difference but, Colin Gordon, who is senior software manager at Ocean, tells us there's also another contributory factor: the blitter is also much quicker. For those of you not in the know about the Amiga's hardware as used by games, the blitter (short for block image transferrer) is a part of the graphics chip that handles moving chunks of image from the memory on to the screen and, as such, radically affects the speed at which a game can run.

More good news about sprites is that where before a hardware sprite was limited to 16 pixels across, it can now be 64 pixels and appear anywhere on screen. Expect bigger and better sprites and characters.

The new hardware has been designed to make smoother scrolling possible. It also enables greater use of 'dual playfields' – with 8-bit colour to play with, the screen can be split into two playfields of 4 bits each, which means 16 colours each. Amazing 'parallax' scrolling effects should be the result.

But the 8-bit 256-colour mode, the new hardware scrolling and the bigger sprites would appear to pale into insignificance by comparison with the simple fact that programmers now have 2Mb of chip memory as standard to play with. Since chip memory is used for sampled sounds and for animations, this could radically affect gaming.

Colin gives *WWF2* as an example. The graphics artist has the freedom to introduce twice as many frames of animation for each character, making all movement more fluid. And an amazing 450K has been given over to the soundtrack, which has enabled them to use sampled voices singing along.

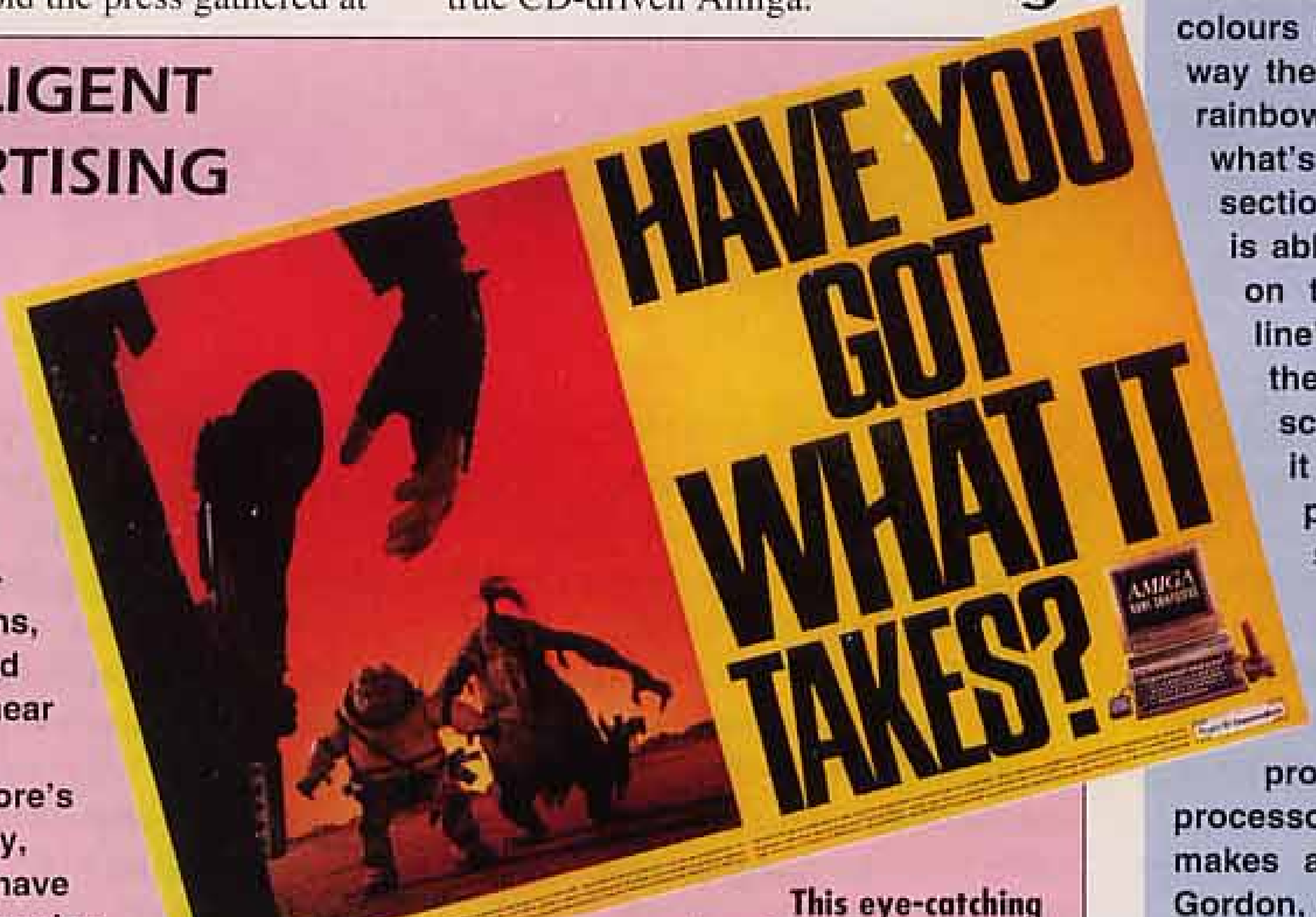
If it sounds as though this Amiga is a programmer's dream, that's because the developers have been consulted all the way down the line. Commodore realise, as Kelly Sumner pointed out to me later, that the world's greatest game designers and programmers are all in the UK – look at the way games like *Robocod*, *Populous* and *Lemmings* have all wowed console owners after being ported over from the Amiga. So in designing this machine, they first went to the developers and asked for a 'wish list' of features from a new super-gaming Amiga.

Not all have been included, because Commodore wanted desperately to stick to the £399 price point which they consider is the right one. A new soundchip, for example, with full 16-bit sound, was on the wish-lists but didn't prove possible.

But when compromises had to be made, Commodore again consulted developers. Ocean would have liked to see the high-density, 1.7Mb disk drive (as used in the A4000) to have appeared in the new machine, but when Commodore pointed out that cost made it a straight choice between 2Mb of RAM and the high-density drive, they plumped for the RAM.

Colin points out that as well as being a good machine to work on, the Amiga remains a catalyst for new talent. Aspiring programmers can develop their first game and learn the techniques at home on this new Amiga, but consoles don't make this possible. And because you can create your own *DPaint* pictures on the 'real computer' Amiga, this will give it the crucial advantage in the battle with the consoles.

INTELLIGENT ADVERTISING



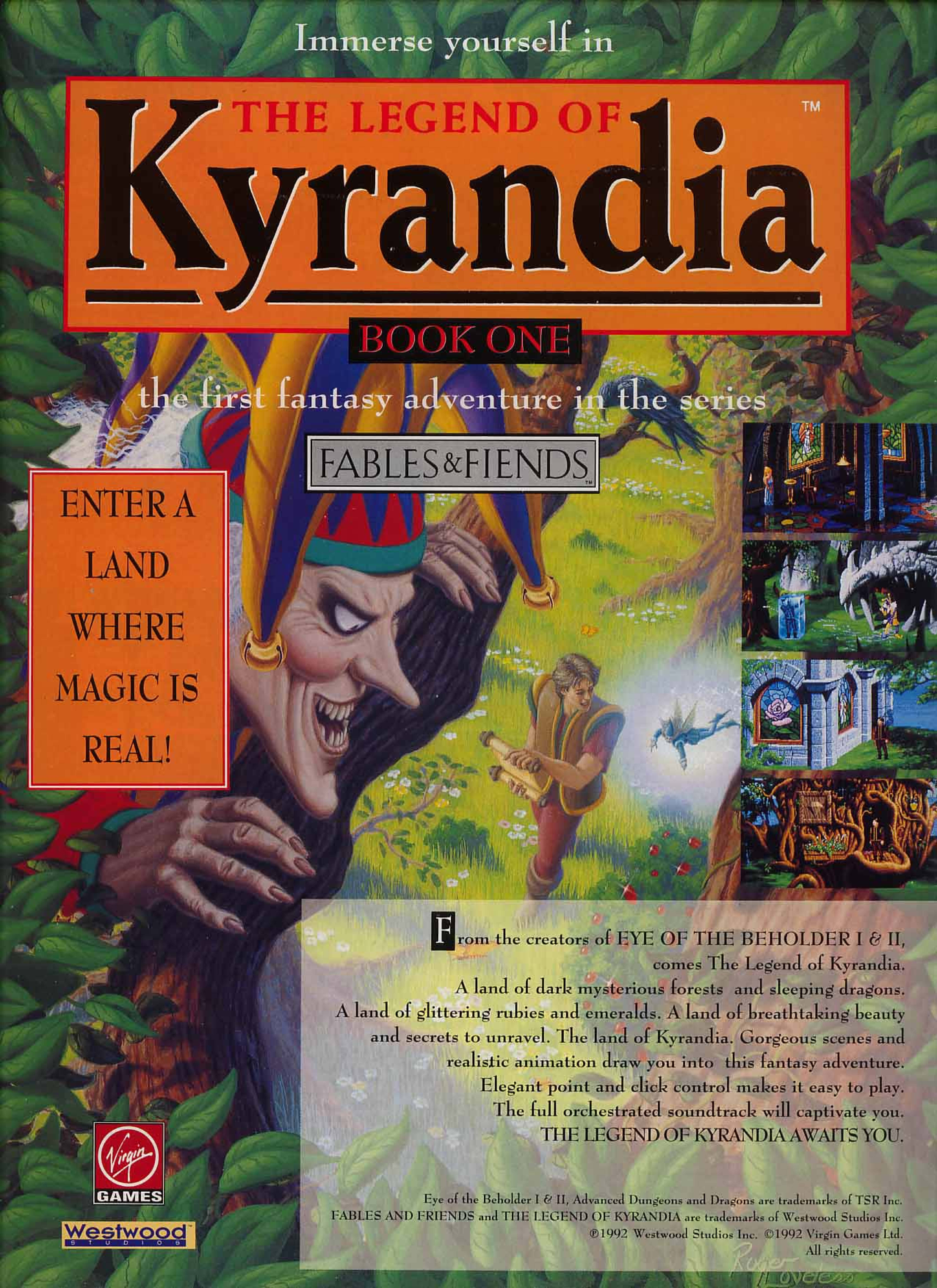
This eye-catching advertisement is just one of a series that Commodore have commissioned for their massive £3.5 million pre-Christmas advertising campaign.

You can expect to see a massive new advertising campaign for the Amiga hitting TV screens, magazines and newspapers near you soon.

Commodore's new ad agency, Laing Henry, have based the campaign on research which shows that computers are the most popular hobby with young people today and that the Amiga is the dream machine. According to a Laing Henry executive: "If money were no object, that's what kids would have."

Suitably aspirational TV ads, with a Terminator-like robot, and magazine ads have been prepared. But Laing Henry are aware that while children are the decision-makers, it's the parents who hold the purse strings, so they've also prepared a campaign for newspapers pointing out that if the kids want to play games, parents are better off spending £300 on an Amiga, with all its creative and educational potential, than £100 on a limiting games console.

The last blow is a leaflet on buying a home computer which will be freely available to technologically intimidated parents in high street shops. While giving impartial explanations and advice, it will be clearly branded with the Amiga name. Clever stuff indeed...



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NEWS ROUND

A4000 PRICE SHOCK
The A4000, released in the UK at £2,099, was out in Germany a few weeks ago. A reader who lives over there, SR Beaumont, tells us it costs DM3,999 – about £1,480. Why the difference?

A600 PC EMULATOR?
Rumours abound that Commodore in America are working on an official PC emulator for the A600 and it may emulate a speedy 386 PC. The technology is available for licence, so they don't need to start from scratch. And it would prove that the A600 is capable of being expanded.

SCSI FOR A4000
One thing that's been putting people off about the A4000 is that Commodore have switched to IDE hard drive connectors. SCSI 2 is still pretty much the standard in high-end machines, so that's bad news; but Calculus are now developing a SCSI adaptor for the 4000. More news soon.
Calculus 0543 251275

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If you're exploring programming, you may find Andrew Taylor's new book, *Amiga Real-Time 3D Graphics* (£14.95) just what you need. The book explains how to create 'virtual worlds' in assembly language, exploring topics like flight simulation and solid-object modelling. Taylor backs up theory with plenty of diagrams and example programs.
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The latest book in the well-known Mastering series from Bruce Smith Books provides a step by step introduction to Workbench 2. *Mastering Workbench 2* (£19.95) assumes no prior knowledge of computing and will prove invaluable to newcomers. It explains the jargon and describes the shortcuts, then moves on with ever more depth and detail.
Bruce Smith Books ISBN: 1-873308-08-6



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We've all seen the crazy designs that joystick manufacturers occasionally spit out; but Cheetah's Characteristicks (sic) range goes a step further. You'd be forgiven for thinking that they were just models of familiar cartoon and film characters, but they are in fact the very latest in designer game controllers. The range features two Batman sticks, an Alien³, a Bart Simpson and a Terminator 2 model, each made from tough plastic and priced at £12.99.
Cheetah International 0222 867777

400 NEW FONTS TO DTP WITH
Advanced Graphics Ltd in Wigan are releasing a range of over 400 Adobe-registered typefaces compatible with the Amiga.

The fonts have been designed by Face Typographic, AGL's typeface division. They will work with *PageStream* and *Calligrapher*. Individually, each typeface costs around £6, but the price drops to around £2 for each one when you buy groups of them.
AGL 0942 498174

CDTV down in price to £399



Commodore finally come round to bringing the CDTV into a seriously competitive position. But where will it be next year when we are bound to see an Amiga with built-in CD-ROM?

The CDTV finally becomes a viable alternative to the Amiga with a further cut in price to £399 for the base-level model. This follows a previous cut from £599 to £499 in November last year.

The Home Multimedia Pack, which includes CDTV with matching black keyboard and floppy disk drive as well as Workbench 1.3.3, repositioned the CDTV as a direct alternative to the Amiga earlier this year.

At its original price of £599 – £100 more than the base CDTV was then – the pack compared favourably with the £399 + £349 (total £750) cost of an A500 Plus with a CD-ROM drive, but it had its drawbacks.

The CD-adapted Kickstart in the CDTV does cause some compatibility problems and the expansion potential of a CDTV is limited.

Since then we've seen Calculus produce CDTVs fitted with 2Mb of chip RAM and a SCSI adaptor with an internal hard drive. Both these factors make it look more like a viable Amiga. This latest price-drop begins to establish the £499 complete CDTV Amiga as a worthwhile choice, fitting into the range alongside the A600 (£299) and the A1200 (£399), neither of which currently has a CD-ROM drive available.

Next year is almost certain to bring a standard Amiga with a built-in CD-ROM drive, and to see the vast majority of entertainment software switching to initial release on CD format. The only remaining question is how the CDTV will be repositioned (once again) when that happens.

But in the meantime, if you want to be a pioneer of CD you have a straight choice: an A570 drive with an A500 that has 1Mb of chip memory, or a CDTV. And at this price, the CDTV finally looks like a better option.

PCMCIA cards arrive for A600



You never thought it would happen, but Amiga 600 (and 1200) credit card expansions are here at last.

Opinion is still deeply divided over whether the PCMCIA 'credit card' slot is a good or bad idea. But one thing's for sure – you can now do something with it, as a flood of RAM cards appears.

No less than three companies are angling to be the first to stock A600-compatible PCMCIA cards. Taurus (through Calculus), Silica and HiQ are all preparing to launch 2Mb and 4Mb RAM cards which function as Amiga Fast RAM when inserted into an A600 or the new A1200.

Meanwhile, price differences between different brands of RAM cards will be minimal. HiQ are selling AMEM 600 cards at £119 (2Mb) and £159 (4Mb), Silica are retailing their Amitek cards at £119.95 and £179.95, while Taurus's Calibra range will sell for £129.99 and £199.99.

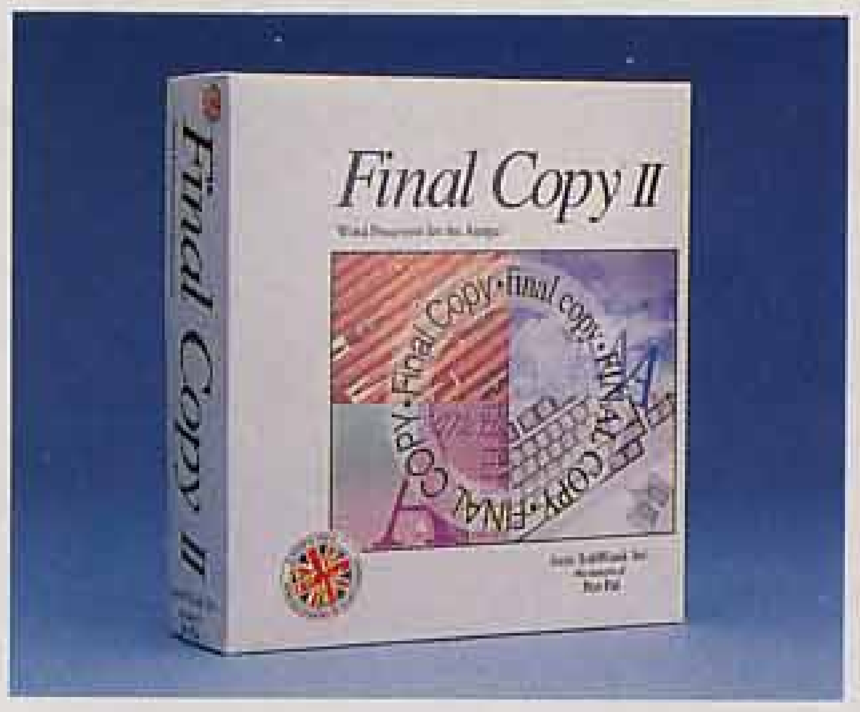
This is an unbelievably compact and convenient way of fitting extra memory. Compare them with standard Amiga expansions and the price seems reasonable too, but we firmly believe the cost of this kind of RAM simply has to drop a lot further.

Taurus also announce that they are currently developing several other PCMCIA cards, including a fax/modem, an Ethernet adaptor and a SCSI/2 interface, all to feature in the Calibra range.

Meanwhile, Japanese consumer electronics giants Mitsubishi have announced a new version of the basic PCMCIA card which is fitted with not one, but two internal back-up batteries. A tiny 7mm by 2mm lithium battery supplies enough charge to retain data for three days by itself – long enough for even the most slothful individual to replace the main 3V hearing-aid style battery.

This feature gives the PCMCIA system the ability to retain data indefinitely. The cards are now available to developers and suppliers, so we should see them arrive on the Amiga early in the New Year.

Final Copy II UK version at last



***Final Copy II* is now officially a UK product.**

Gordon Harwood Computers have managed to secure a deal with the American firm Softwood, for their new word processor *Final Copy II*. The package will retail for £99.95 in the UK, and it's the first time that *Final Copy* has officially been distributed over here.

Softwood, who created *Pen Pal* and an America-only version of *Final Copy*, say that *Final Copy II* is the first and only Amiga word processor to give perfect printing with smooth outline fonts on any Workbench-supported printer, on any Amiga. It can print text up to 300 point size (roughly 4 inches high), use colour and mono graphics and has drawing tools, an English spellchecker and thesaurus.

Final Copy II needs 1Mb RAM (1.5Mb on the A600HD) and twin floppies or a hard drive. Harwoods 0773 836781.

Amazing new graphics technique hits the Amiga



MorphPlus going through its paces. We start with this perfectly innocent owl...



...before you get the chance to yell: "Protected species!" we have done...



...this to it. *Voilà!* we have produced this Midwitch sort of owl-baby.



Who then proceeds to metamorphose into this startled looking kiddie.

There's a brand new Amiga pursuit in town: it's called morphing and is widely touted as the technique that has transformed modern cinematic special effects.

You may have seen this effect most dramatically at work in the form of Arnie's T1000 adversary in the blockbuster film *Terminator 2*.

And it's about to arrive on the Amiga in a big way. Where 3D modelling was once the 'high-end' area of Amiga graphics, morphing is set to take over.

Morphing first arrived with *ImageMaster* from Black Belt, the top-notch image processing package reviewed in ***Amiga Format*** issue 37 and scored 89 per cent. It involves taking two bitmap images and blending from the first to the second over a number of animation frames.

Two major Amiga suppliers have announced new cinematic-quality image-morphing packages, confirming the Amiga's position as leader in the low-cost computer graphics market. The two packages both originate from the USA, where the Amiga already has a strong foothold in the TV and cinematic graphics and special effects markets.

MorphPlus from ASDG is already being used by Hollywood special effects animators for the film *Babylon 5*. It is compatible with ASDG's image processing package *Art Department Professional* and they claim it can produce a complex broadcast-sized morph at the same speed as a high-performance Silicon Graphics workstation.

MorphPlus also offers a range of Digital Video Effects (DVEs) like tumbles, fly-bys, sphere-mapping and water-effects. *MorphPlus* is being distributed in the UK by HB Marketing (0753 686000) at a retail price of £199 inc VAT.

Rival program *CineMorph* from GVP is due for release in the UK immediately from Silica (081-309 1111) priced £99 inc VAT.

As with *MorphPlus* you can use it to turn one picture into another and produce high-quality animations.

GVP are keen to point out that *CineMorph* is a subset of a more powerful graphics package called *Image F/X* which, according to GVP's President, Gerard Bucas: "...is intended to be equivalent to Adobe *Photoshop* on the Macintosh and even better in our opinion than *Art Department Professional*."

Image F/X will cost £229 – for more on GVP and Gerard Bucas turn to page 32 of this issue.

Meanwhile, GVP and ASDG are trying to work out a solution to another problem, one of product names. While GVP's product is called *Cinemorph* on the Amiga, ASDG's version of *MorphPlus* for IBM-PC compatibles' Microsoft Windows graphic user interface is also known as *CineMorph*.

Whether this means that one or other of the American companies will have to give way and change the name of their morphing program isn't yet clear.

As we go to press both companies and their UK distributors are trying to resolve the situation.

Amiga Format will bring you news of any product name changes next issue. We're also intent on securing review copies of both of these exciting graphics programs for the next issue. Then we'll really find out which one is the best.

Amiga phone home

Silica have announced a provisional end-of-December release date for GVP's new telephone voice-mail system, PhonePak. The system uses an Amiga to control a special fax/modem which is linked to your telephone line rather like a conventional answerphone.

PhonePak is apparently far more versatile than anything previously seen at the proposed price of £399. It can store personal messages for different people in such a way that only the people they were intended for can replay them.

GVP's President Gerard Bucas, explains: "In a family of four people with a normal answerphone, the first person who comes home presses the play button and hears that 80 per cent of the messages are not for them. Now the problem is this: do you rewind the machine, and when should it get rid of the messages?

"PhonePak allows you to make your telephone system say 'If you want to leave a message for Dad, press 1. If you want to leave a message for Mother, press 2', and so on. So each family member can put passwords on the system, so they can either delete or keep their messages without interfering with anybody else's."

The Phone Pak system is also capable of receiving faxes and storing them in personal mailboxes on the Amiga, along with a corresponding voice-mail. Depending on the standard of your telephone system and exchange, it's also possible to make PhonePak redirect calls to other numbers or extensions, or take a voice-mail if they don't answer.

The system will be supplied with a number of default messages and voice-mailboxes which enables you to set it up very quickly. You can later modify the messages and system details to personalise the messages and access-levels.

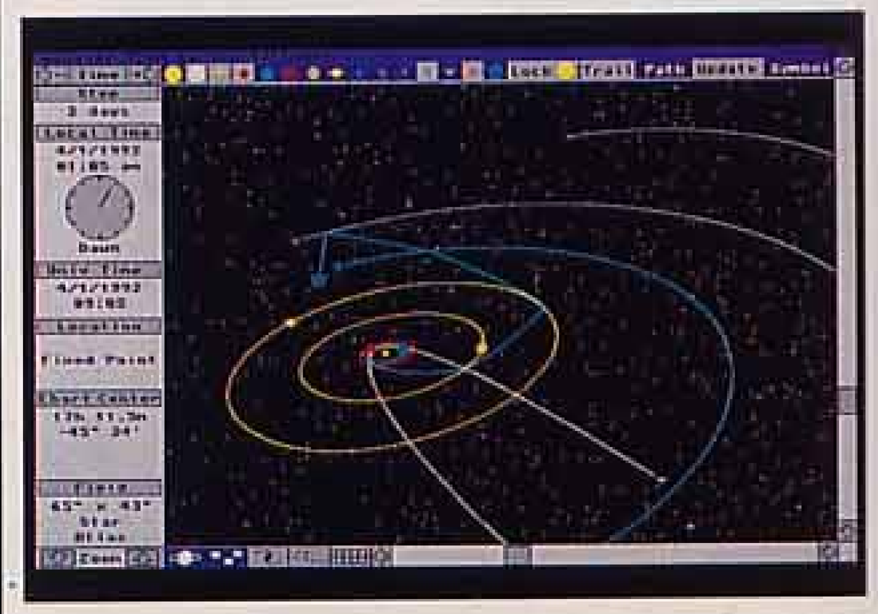
VIRUS THREAT GROWS

Spooky news arrives from the worldwide virus-hunting organisation Safe Hex International that there are now around 300 hundred different types of virus active on the Amiga. And the figure is quadrupling each year.

Danish virus expert Erik Loevendahl Soerensen predicts that the Amiga world will be host to around 10,000 different types of virus by 1996. If this scares you, the figure for PC compatibles could be around 25,000.

SHI's *New Superkillers* disk is updated around 30 times a year, and translated into languages that cover nearly half the globe. It's a massive task, requiring input and information from anyone who can spare the time or needs a hand. SHI also needs programmers who can help write and update their vast range of virus-killing tools.

If you'd like to get involved or make a donation, you can contact Safe Hex International's Lancashire HQ on 0942 682205. If you're thinking of setting up a virus centre in different country, contact Erik Soerensen at the SHI main HQ in Denmark on +45 55 99 25 12.



LIFE ON MARS

***Voyager 1.1* (£90) is a 'dynamic sky simulator'. Produced by Carina Software of California, it offers you the chance to watch the movements of the planets in fast-forward, to view the solar system from anywhere you like and to watch eclipses and map the moon and see the mythical constellations and... oooh! You can bet we'll bring you a review of this program soon.**
From HB Marketing on 0753 686000

MORE FONTS FOR YOU

EM Computergraphic, now a force on the Amiga PD font scene, have recently received approval from Gold Disk, the makers of *Professional Page*, to distribute *CGUpdate*, the Compugraphic font convertor. This program enables Gold Disk DTP users to use Compugraphic fonts in their work, including the vast range of PD/shareware fonts and clipart that EMC currently distribute.
EMC 0255 431389

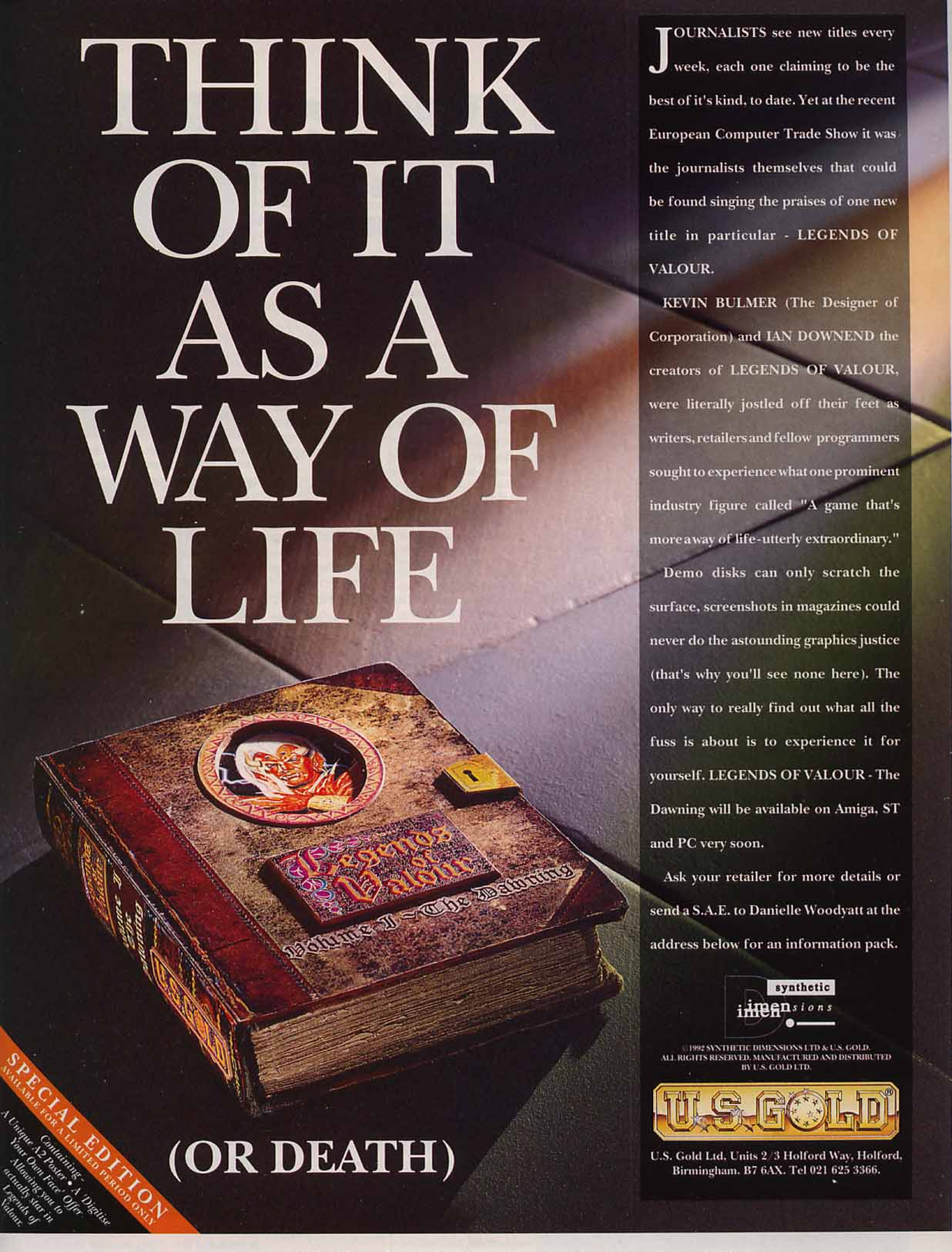


STICKLESS TOUCH CONTROL

Console-style control arrives with Hornby's Triax Turbo Touch 360, a radically new style of hand-held controller. Its feather-touch direction pad means there's no buttons or switches. Hornby Hobbies claim the Turbo Touch 360 will "vastly improve gameplay, provide superior control and eliminate thumb strain." It will cost around £20.
Hornby Hobbies 0843 225555

POWER INTO COLOUR

The colour version of Power's hand scanner is ready. The grey-scale version wowed us with high quality and low price (£99). The new colour version costs more, £279, if it produces colour scans at a similar quality to the mono version it will be a winner. Power Computing 0234 843388.


THINK OF IT AS A WAY OF LIFE
(OR DEATH)
JOURNALISTS see new titles every week, each one claiming to be the best of it's kind, to date. Yet at the recent European Computer Trade Show it was the journalists themselves that could be found singing the praises of one new title in particular - LEGENDS OF VALOUR.
KEVIN BULMER (The Designer of Corporation) and IAN DOWNEND the creators of LEGENDS OF VALOUR, were literally jostled off their feet as writers, retailers and fellow programmers sought to experience what one prominent industry figure called "A game that's more a way of life - utterly extraordinary."
Demo disks can only scratch the surface, screenshots in magazines could never do the astounding graphics justice (that's why you'll see none here). The only way to really find out what all the fuss is about is to experience it for yourself. LEGENDS OF VALOUR - The Dawning will be available on Amiga, ST and PC very soon.
Ask your retailer for more details or send a S.A.E. to Danielle Woodyatt at the address below for an information pack.
synthetic dimensions
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U.S. GOLD
U.S. Gold Ltd. Units 2/3 Holford Way, Holford, Birmingham. B7 6AX. Tel 021 625 3366.
Legends of Valour
Volume I - The Dawning
SPECIAL EDITION
AVAILABLE FOR A LIMITED PERIOD ONLY
Containing - A 'Digitise Your Own Face' Offer • A Unique A2 Poster • Allowing you to actually star in Legends of Valour.

This month's top 30

ELSPA PENGUIN CHARTS · COMPILED BY GALLUP · SPONSORED BY PENGUIN BISCUITS

Position		Title	Publisher	Rating
1 (NEW)	■	Zool	Gremlin Graphics	Format Gold 95%
2 (NEW)	■	Lotus 3: The Ultimate Challenge	Gremlin Graphics	76%
3 (1)	▼	Sensible Soccer	Renegade/Mindscape	Format Gold 91%
4 (NEW)	■	Shadow of The Beast 3	Psygnosis	53%
5 (2)	▼	Civilization	MicroProse	Format Gold 94%
6 (11)	▲	Graham Taylor's Soccer Challenge	Krisalis	82%
7 (3)	▼	The Secret of Monkey Island 2	US Gold	Format Gold 95%
8 (9)	▲	Lure of The Temptress	Virgin/Revolution	Format Gold 92%
9 (NEW)	■	Putty	System 3	Format Gold 95%
10 (18)	▲	Jimmy White's Whirlwind Snooker	Virgin	Format Gold 91%
11 (4)	▼	Formula One Grand Prix	Microprose	Format Gold 92%
12 (7)	▼	Fire and Ice	Renegade/Mindscape	89%
13 (NEW)	■	Air Support	Psygnosis	61%
14 (26)	▲	PGA Tour+	Electronic Arts	Compilation
15 (NEW)	■	Assassin	Team 17	Review next Issue
16 (29)	▲	Mini Office	Europress Software	84%
17 (NEW)	■	Head to Head: F-19 & MiG-29M	Domark	Compilation
18 (17)	▼	John Madden American Football	Electronic Arts	Format Gold 94%
19 (13)	▼	Striker	Rage Software	Format Gold 93%
20 (NEW)	■	Wizkid	Ocean	Format Gold 93%
21 (6)	▼	Crazy Cars 3	Titus	Format Gold 93%
22 (14)	▼	The Manager	US Gold	79%
23 (12)	▼	Eye of the Beholder 2	US Gold	Format Gold 91%
24 (8)	▼	Premier	Core Design	89%
25 (NEW)	■	The Aquatic Games	Millennium	86%
26 (RE)	■	Thunderhawk	Core Design	Format Gold 90%
27 (NEW)	■	Championship Manager	Domark	41%
28 (19)	▼	Project X	Team 17	75%
29 (24)	▼	Pinball Dreams	21st Century Entertainment	84%
30 (RE)	■	A320 Airbus	Thalion	78%

Place your bets for the top game this Christmas

1990 was a close heat between *Powermonger*, *Robocop 2* and those *Turtles* – last year it was surprise hit *WWF Wrestlemania* from Ocean. So what will be at the top of the sales heap when the charts for that vital Christmas week are released in January?

The software industry attaches a great deal of importance to the Number One chart position at Christmas, because that's the time of year when sales are at their peak. The Xmas Number One, therefore, can often be the top money-making game of the year.

If you're looking for a pattern, year after year Ocean's tactic of paying high prices for big-name 'youth cult' licenses seems to pay off. Last year, none of the magazines had even reviewed *WWF* when it swept to top spot on a wave of wrestling cult fervour among kids too young to read.

Batman in 1989, the *Turtles* and *Robocop 2* in 1990 and *WWF* in 1991 are among those that have sold mainly on name and made it into the top three, although the games behind the titles varied immensely in quality. But a big name is no guarantee: strangely, *Bart Simpson* wasn't there at the line last year.

This year, only Ocean's *Wrestlemania* follow-up, *WWF European Tour Rampage*, is in the running but looks as though it won't be out in time. So is it the turn of an original product?

Probably not. The other pattern that emerges from the last three years is sequels. *Powermonger* in '90 and *Populous 2* in '91; *Robocop 2* in '90 and *Robocop 3* in '91; *Lotus 2* last year, *Lotus 3* this year; and, of course, *Lemmings*, all made it into the top five.

Lemmings 2, even now being rushed out to hit the shelves just before Crimble, has to be one of the major contenders this year. What probably makes it unique, though, is that it's the only big-name sequel in contention.

Original arcade games have to be in with a chance, both Gremlin's *Zool* and System 3's *Putty* coming out as major contenders in the mould of last year's *Robocod*. Possibly a flight sim – *Tornado* or *Reach for the Skies* – could be up there, emulating the performance of *Birds of Prey* last year.

It seems most likely that this year, as last year, the final say will go to the game with the biggest hype behind it.

This year, that's a coin-op conversion – *Street Fighter 2* brought to the Amiga from the arcades by US Gold. So, which of these do we reckon will crack it? Well, it should be a toss-up between *Lemmings 2*, *Zool* and *Putty*, but *StreetFighter* has the by far the biggest groundswell of public feeling.

So there you go. Now get ready to place your bets, and wait…



Street Fighter 2: a good pedigree from the consoles. Highly rated as the Evens favourite.



Zool: *Format* Gold. Should have been shown the running by Commodore. A strong 3-2 contender.



Putty: much fancied by the *Amiga Format* punters. Well placed with a *Format* Gold. Another 3-2 on.



Lemmings 2: from a good stable. Shows well on Xmas running. A possible non-runner though. 3-2.



A WWF game. A possible non-runner once again. Fancied by the less-knowledgeable. A 4-3.



Tornado: very much the dark horse this year. Still in training. A little flighty for some tastes. 10-1.

The return of the flight sim



Tornado from Digital Integration has been tested by the RAF, and should be out before Christmas.

It seems an age since we had a flight sim, even though this is the most enduringly popular game style. *MiG-29* and *Birds of Prey* spring to mind, but both are now well over a year old.

If you thought flight sims were dead, you'll be pleased to learn that one of the masters of the genre is back in a big way. It's still likely to be around six months before we get to see Digital Integration's new Tornado simulation in full effect, but it's already looking incredible.

On a recent trip to see the game in development, we were gobsmacked by the realism and speed of this massive flight sim. *Tornado* boasts a 100x100-mile playing area (that's a cool 10,000 square miles) and it's all to scale.

Within that landscape you'll find detailed cities and nearby power stations with power cables supplying the cities' energy. Needless to say, if you take it upon yourself to shoot down the power lines, you can plunge a city into darkness.

There are also highly-detailed runways and airbases which make other games look distinctly bare and unrealistic; a fully-operational railway system with superbly-detailed trains to bomb; and a network of roads and bridges.

As for the plane itself, things are coming along nicely, but Digital Integration are waiting for the results of their extensive testing before releasing it. Currently, the *Tornado*'s terrain-following auto-pilot is working as well as the one in the real thing, and internal systems like the infra-red thermal imaging cameras (like the ones used to view the bomb-drops in Iraq) are scarily realistic.

Digital Integration have managed to obtain some of the most detailed research material ever used in military flight simulation, thanks to their close connections with two vital organisations: British Aerospace (makers of the Tornado) and an undisclosed (for reasons of military propriety) Tornado squadron somewhere in Europe. Both of these well-informed groups have given Digital Integration permission to take film and video of the planes in action, plus tons of photos, sound recordings for use as effects. And they've even let them have a few jaunts in their military-quality flight simulator.

With *Tornado* on the way, *Gunship 2000* nearly here and *Reach for the Skies* out soon, happy days are here again for sim fans.

Zool free with A600



Not before time, *Zool* makes it into an A600 bundle. But this one isn't from Commodore, and it proves that dealers also have some clout.

The game that should have been in Commodore's Christmas bundles has now been added by Silica, who are bundling it free with the A600. A games pack will be supplied in addition to all other packs (the Epic bundle and the Wild, Weird and Wicked pack) containing arcade classic *Zool*, the highly-rated soccer game *Striker*, the excellent *Pinball Dreams* and the word processor *Transwrite*.

Apart from the fact that these are great games and make a £349 pack that already contains *Putty* and an A600 into a hell of a good deal, this pack also defies the accepted wisdom of dealers. It was widely believed that the narrow profit margins on the A600 would make it very difficult for dealers to add free extras.

Since Silica, in their SDL guise, also distribute to other retailers, the *Zool* games pack will be available from other suppliers too.

Silica 081-309 1111

ASDG SUPPORT AA CHIPS

Now that the A4000 is no longer top secret, ASDG reveal that their existing version of *Art Department Professional 2* is fully compatible with the new machine. While the A4000 was under wraps, ASDG were unable to bring this fact to people's attention for fear of breaching non-disclosure agreements with Commodore. *ADPro 2* fully supports the A4000's new Super Hi-Res and HAM8 modes and has done since its release.
HB Marketing 0753 686000

POWER GOES ON-LINE

Power Computing have just set up a new in-house bulletin board system called the Power House. On it, they propose to offer thousands of PD and Shareware programs for the Amiga, thanks to a 68040-based A2000 with a 1.4 Gigabyte hard drive. They also intend to offer discounts on Power Computing products to callers who register with the BBS; on-line technical assistance with any Amiga product; and on-line ordering with same-day dispatch. Amiga owners with a modem can call the Power House BBS on 0234 841503 (V42 and V32bis) or Power Computing on 0234 843388 (voice).

DOUBLE DIGITISER

Microdeal are just about to launch their new combined video and audio digitiser system, Videomaster. It's the first of its kind which enables you to sample and capture both media at once. It can produce quarter-screen monochrome animations in real-time, grey-scale stills and you can sample sounds with it. With the supplied coloured filters or an optional RGB splitter, it can be used to capture colour stills from videos and camcorders. Also bundled is a player program that enables you to make video/audio sequences. Videomaster works on any A500 or A500Plus with 1Mb RAM, and costs £69.95.
Microdeal 0726 68020



ZAPPO – NO BULL

Taurus Distribution intends to give the prestigious 'lifestyle-brand' companies like Nike and Reebok a run for their money with the Zappo range of Amiga products. The range includes RAM upgrades (£29.99 and up), external floppy (£55) and hard drives (40Mb: £300, 60Mb: £350), but the lifestyle aspect that Zappo are keen to promote is the ZapSac, an over-the-shoulder carry-case for Amiga 600s.
Taurus 0543 414939

POWERFUL 486 PC EMULATOR

German emulator specialists Vortex launched their new Golden Gate 486SLC bridgeboard system (£699) for the Amiga in Cologne. The system is a 25MHz 80486 PC/AT emulator for the A2000/A3000. It comes with 2Mb of RAM which can be expanded to 16Mb, and provides an IDE hard drive interface and a high-density floppy disk controller too. It can work with the optional Monitor Master (£79), a little black box which enables you to view EGA/VGA and Amiga video with just one multi-sync monitor.
Vortex 010-49-7131-5962

DAATASCAN MAKES THREE

Pandaal International are now releasing version three of the *Daatascan Professional* software for the Pandaal Amiga hand-scanner. The new version has a dual-screen layout with additional 16-colour grey-scale screen, freehand draw and text options, full Workbench-compatible printer support and two levels of zoom. It is to be supplied with new Pandaal hand-scanners, and is available to existing users at £20.
Pandaal 071-328 4442

DIRK DARES AGAIN

Who can forget *Dragon's Lair*? Its detailed and colourful graphics belied the fact that it had little or no gameplay. Now ReadySoft announce the forthcoming release of *Dragon's Lair III – The Curse of Mordread*. It has 1,500 frames of animation and sports digitised sound, all for £30.
Entertainment International 0268 541126



LEEDS BACK IN EUROPE

Empire is to distribute a new footie management game from CDS, the makers of *Football Director 1* and *2*. With *Leeds United Champions* you can re-create the unbounded embarrassment of scoring an own goal against Rangers. Look out for this latest in a long history of football management games in time for Christmas, priced £25.99.
Empire 0268 541212



PROPER CHOPPER

It's possible that you've never heard of *Gunship*. It was one of MicroProse's first simulations for the Amiga, and now they've decided it's time to revitalise the ageing helicopter sim in the form of *Gunship 2000*. It re-creates many of the features of the original, but in an up-to-date fashion. Clunky graphics have been replaced by smoother 3D landscapes, but it still features the usual missions, training and campaign situations. *Gunship 2000* should be available in December for £35.
MicroProse 0666 504326

NIGHT ON THE TILES

US Gold have just about finished the first 'legal' version of JW Spear's word game *Scrabble*. Previously, a *Scrabble* lookalike made it into the PD market, only to be the subject of an injunction. Spear soon tied up an official licence deal and the fruit of the liaison offers four-player tournaments, games versus the computer, a 126,000-word dictionary and 12 skill levels. It should be out for Christmas at £25.99.
US Gold 021-625 3366

BATTLE OF BRITAIN

Virgin's forthcoming WWII flight sim is about to get take-off clearance, as the chaps at Rowan Software put the finishing touches to it. *Reach for the Skies* is practically two simulations in one, enabling you to take the role of a pilot (flying planes), an operations controller (pushing those little flags around a campaign map), or both. You can play the game from either a German or British perspective. So far, *Reach for the Skies* has slipped a little from its original Autumn release, but Virgin still reckon they'll have it in the shops for the all-important Christmas crush.
Virgin Games 081-960 2255

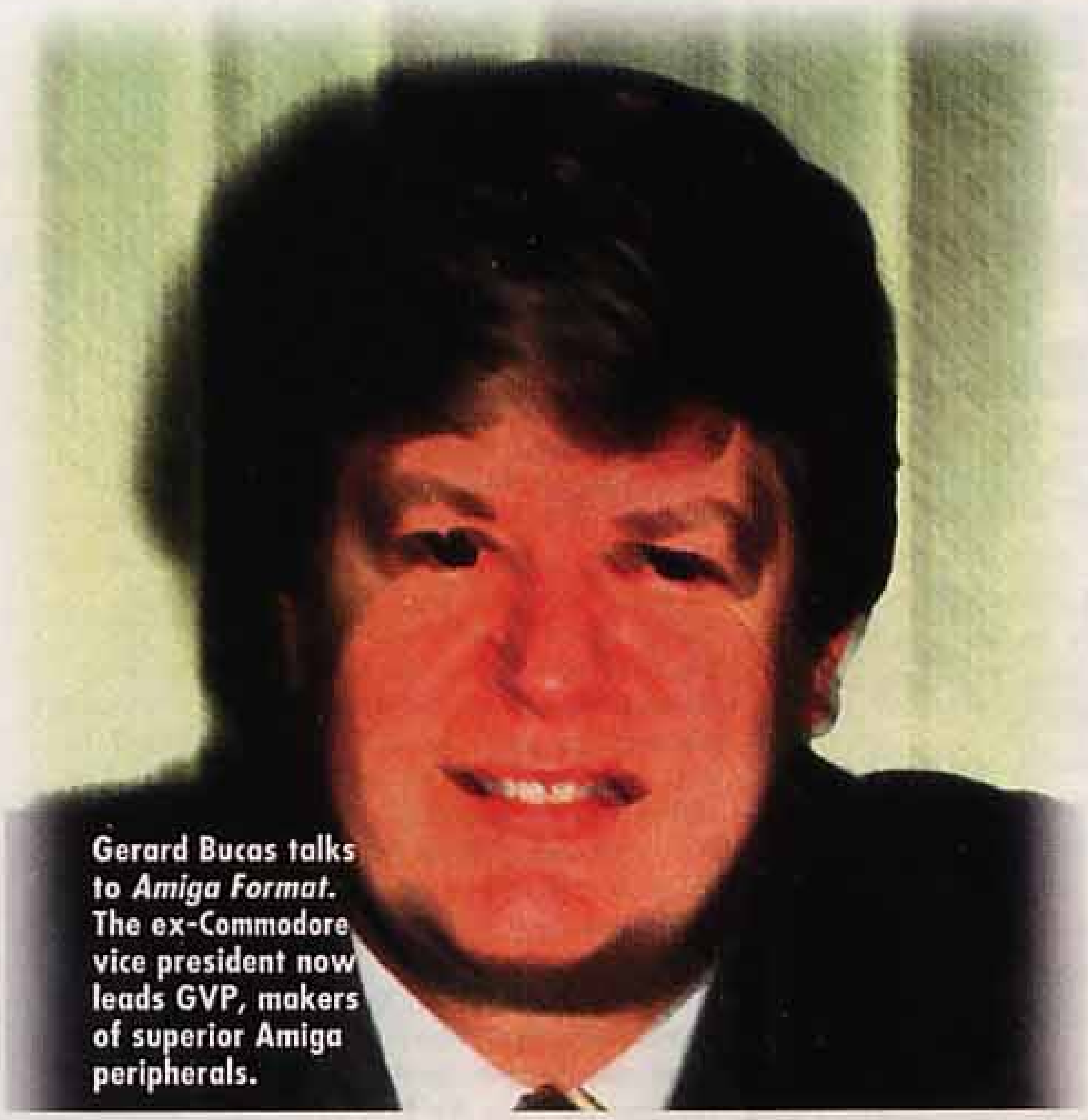
GERARD BUCAS IS a big man. Luckily he is big and affable. He's also pleased to talk about his work, his past, and the future for GVP and the Amiga.

Four years ago he had a secure vice president's post with Commodore. He was working on Amiga product development and was growing uncomfortably bored with the direction in which he was going. He knew he could do better for himself. He knew that he could do better for the Amiga.

Four years ago, Great Valley Products didn't exist. Now they are one of the largest and most successful manufacturers of peripherals for the Amiga in the world.

When you look at the fact that GVP is an American company, based in a country where the Amiga is but the merest speck on a map full of PCs, you ask yourself: just how does a company with such high odds against it turn into the worldwide market-leader?

How, for example, did Great Valley Products begin: "Mainly because I had been there [at Commodore] for four years already and I saw some really big potential opportunities. There were no serious companies in the [Amiga] after-market and I guess the most important thing I decided was 'let me try and do my own thing'.



Gerard Bucas talks to *Amiga Format*. The ex-Commodore vice president now leads GVP, makers of superior Amiga peripherals.

The Neil Jackson interview
Gerard Bucas, president of GVP

If the Amiga is not a 'big machine' in the United States, then how come Great Valley Products make so much money and such advanced Amiga peripherals? **Neil Jackson** tracks down GVP's founder and president Gerard Bucas at his Pennsylvania HQ and gets some answers...

"It wasn't really political – I mean obviously you could argue there were all sorts of politics and other things, but if you really analyse it, that's true with all large companies."

Although GVP have probably done more for the Amiga (and for Amiga users) worldwide, and certainly in the UK than Commodore themselves – look at the A530 Turbo hard disk for one example of excellence – Gerard knows not to crow at the expense of Commodore. He is diplomatic, but is there a touch of irony in what he says: "I am definitely not a Commodore-basher. I am always positive about Commodore because obviously we are totally dependant on them."

Clearly GVP have a solid background in Amiga development. So how does Gerard account for the fact that they sell more peripherals than Commodore?

"My philosophy always has been that we wanted to be a world company and a growth company. When we started GVP, I discovered that most [similar] companies are a couple of engineers who think small and generally have engineers even in their sales departments. These types of company never seem to expand because they don't have an ambitious outlook.

"We decided to employ a proper sales team. This left our engineers to get on with the business of developing and building newer and better peripherals.

"We became so successful with peripherals that it's almost like Commodore don't have to do one because we'll probably do it in any case. It's a sort of chicken-and-egg problem that has slowly but surely, I think, resulted in Commodore doing less and less peripherals.

"Another interesting thing is the fact that I'm not an American, but I'm working from America. I mainly deal with European distributors and the fact that I'm European myself," (he's Dutch in fact, but you have to fight to pin down the accent because it now has the stateless, mid-Atlantic twang) "gives people a different level of trust for some reason. They feel we can make common jokes about Americans and stuff.

> "I had been at Commodore and I saw some really big potential opportunities. There were no serious companies in the (Amiga) after-market and I guess the most important thing I decided was 'Let me try and do my own thing'"

"One of the reasons, I think, is that American companies always want to do everything through lawyers and contracts and so on, and the minute you make one mistake they get their lawyers involved. Until two months ago we never even had a lawyer in this company."

From GVP's point of view, what's the difference between the UK and US? "Right now," Gerard points out, "our sales are 50 per cent USA and 50 per cent rest of the world." So despite the assumption that the Amiga is a 'minor-league' machine in the US, this market still, "amazingly enough" according to Gerard, accounts for half the company's sales.

"There are two reasons for that. One is because we are located here so we can be much more aggressive than any distributor we appoint overseas. Second, the US has a higher percentage of higher-end machines.

"Because there is no major US market here, they ignore the Amiga. We went after a global market because it's true, certainly at the moment, that there is no single country that you could survive on. If you put all the countries together, it's a different story."

This big thinking has obviously done the company no harm at all. Since 1988 staffing has grown from two to 65 people. Profits have grown from $0 to $35 million. No mean feat in an age of slowed growth, using a machine many dismiss (in the States). Gerard doesn't see this as a problem: "The US is predominantly higher-end whereas Europe and the UK especially is lower-end, but what is interesting is that our sales in the UK (in money terms) are as much as 40 per cent high-end product."

So would GVP ever consider dropping the A500 market? This one strikes a chord. But not the one you would expect. Gerard, and GVP have a very positive attitude to the 500: "We are finding that the A500 market is 'maturing'. There are more and more people who have an A500 and say 'gee, I could do something useful with it'.

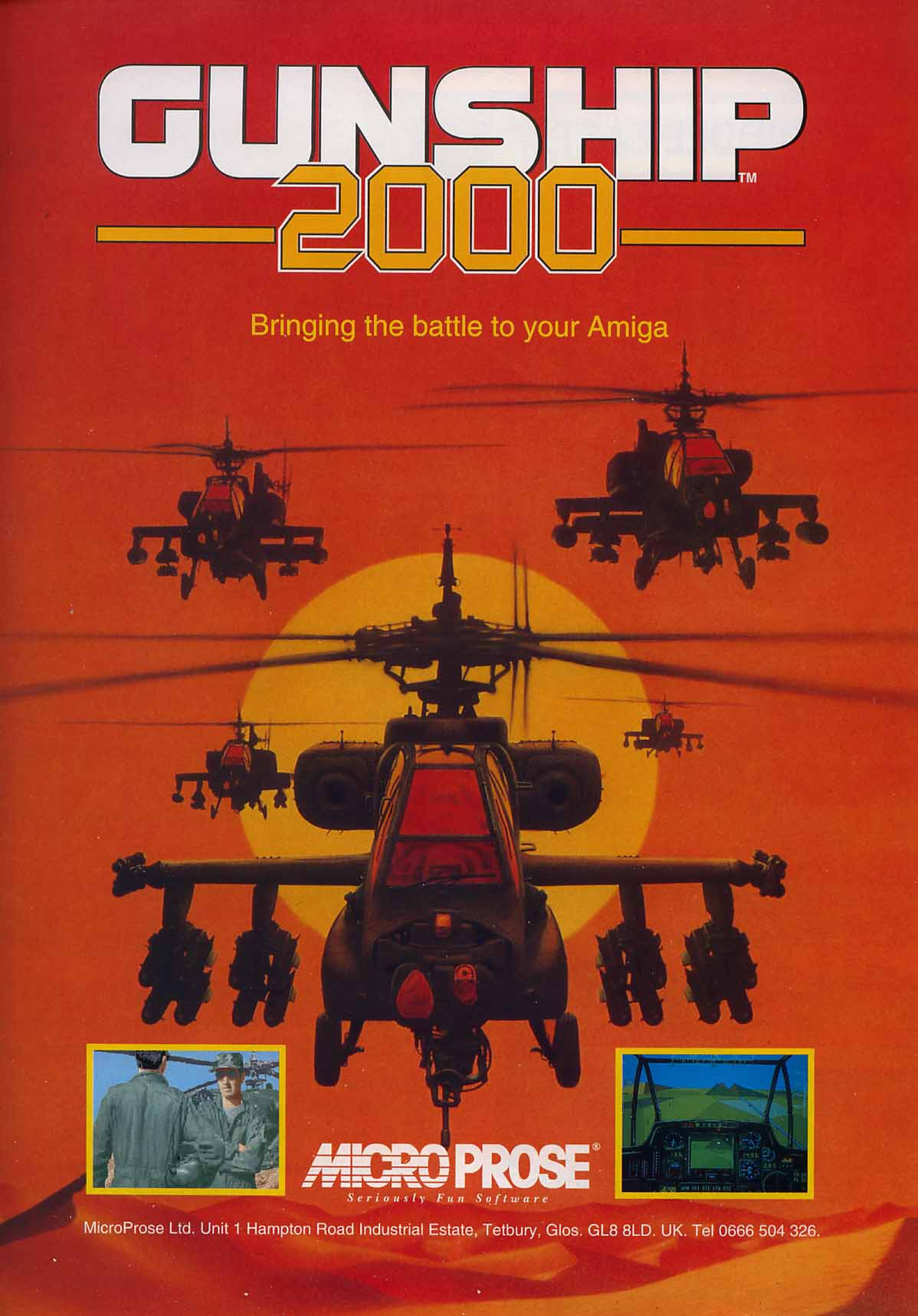
"Second, hardware is always going down in price. For example, a hard drive now costs probably half of what it did two years ago and as a result more people can afford one.

"The average A500 owner does not have a lot of money, but suddenly hard drives are starting to come close to what he can afford. So we are totally committed to the A500 and eventually the A600 market."

What about the future? Would GVP ever dump the Amiga in favour of the PC. Gerard is shocked: "Again the answer is definitely no. The only thing is we will definitely plan to diversify, maybe into some other platforms."

One thing many Amiga users would love would be the chance to walk into a GVP store, to deal with the company one-to-one. So can Gerard see them opening an office, or a technical support facility in the UK? He obviously has Silica Shop to consider before answering this. Again he is diplomatic: "Longer term, I think obviously we need to look at that and we are definitely not totally ignoring that issue. I don't want to say more at the moment."

This conversation could have gone on and on, but Gerard has to get away and discuss some new Amiga peripheral with his team. But he leaves on a positive note: "How serious are we? We are definitely focussed on the Amiga, that's for sure." Amen to that.


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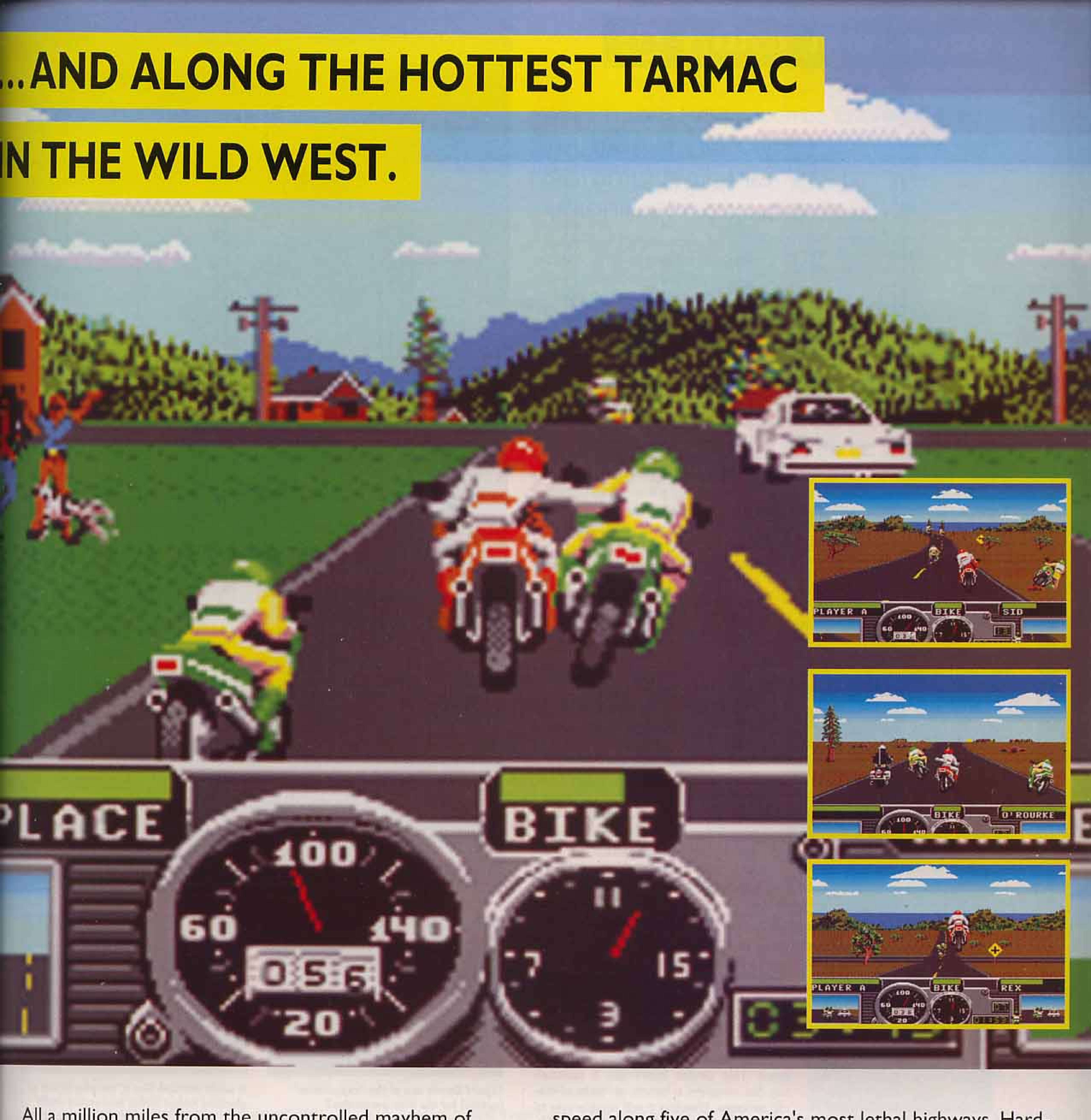


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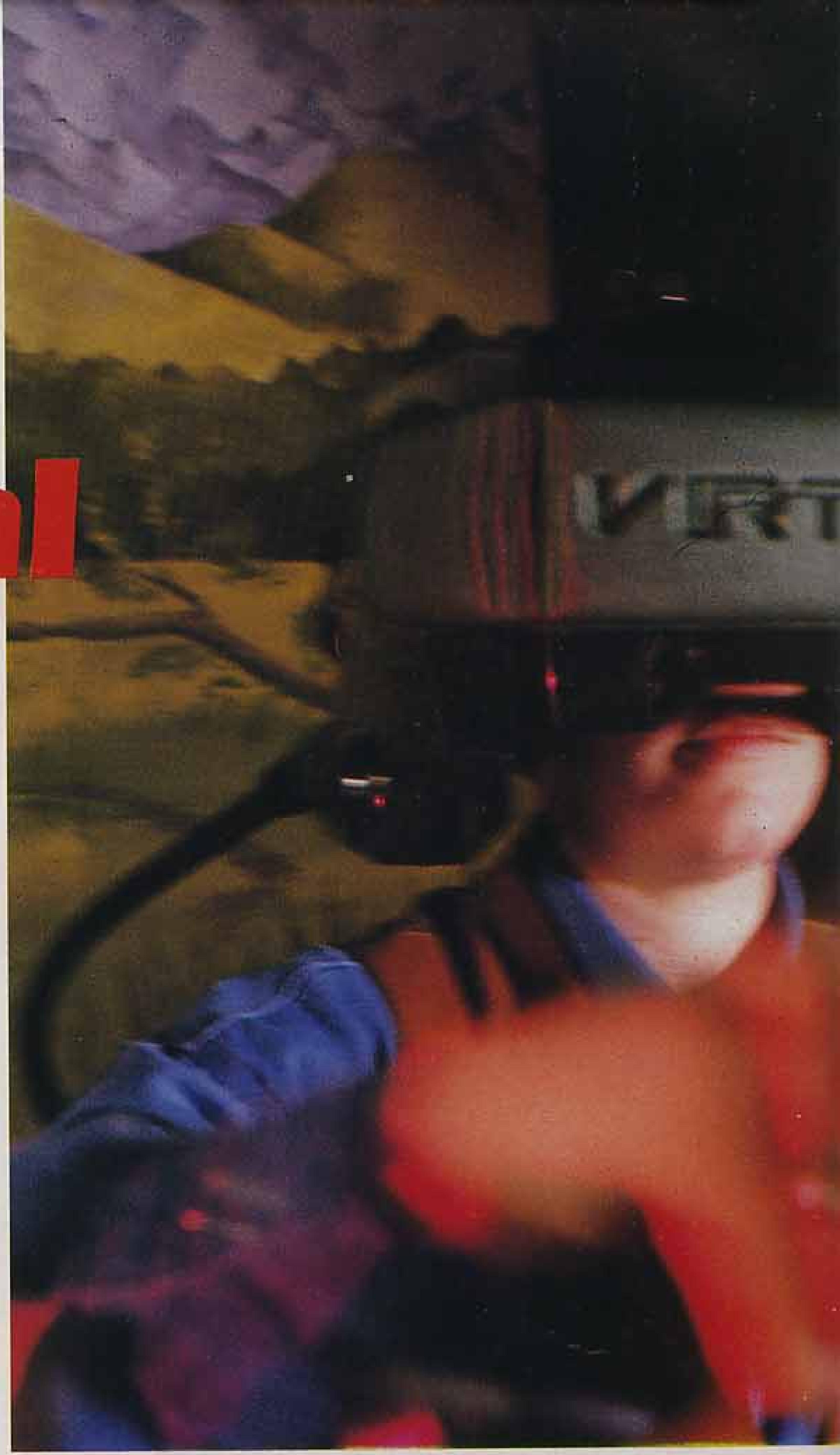
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Is there an area of computing that doesn't involve the Amiga in some way? **Andy Nuttall** thinks not, and sets out to a 'real' Nottingham to report on the Amiga-produced Virtual Reality...

The virtual Amiga



WHEN AND WHERE will the Amiga stop? It has already won awards for police crowd control, it is widely used in television and music, and now it is being used at the very core of the first production-line Virtual Reality systems in the world.

The Virtuality system from W Industries comprises a large headset connected to a huge black machine, which you either stand or sit in. It also features the many talents of an Amiga 3000 as the controlling force of the whole shooting match.

These are the machines that you might have seen springing up in the amusement arcades over the summer.

Instead of using a monitor screen to display the games, Virtuality uses a special headset called the Visette, which gives you a stereoscopic view of the game that you're playing. The Virtuality system also tracks your position, so when you move your head around, the image you see changes accordingly. This enables some incredibly complex interactive games to be created, where you can actually feel that you are 'inside' the game instead of looking in from the outside.

"The Amiga is basically the workhorse of Virtuality, with an Amiga 3000 controlling most aspects of the system," explains Matt Drakard, one of W Industries' representatives in the UK. "There are other proprietary graphics boards which were designed specifically for W Industries, but they all sit around the Amiga which then controls all the processing of information and makes sure that everything works."

So does that mean that the Amiga basically does everything aside from

Back in the real world...



The Free Wheel: control systems for a home Virtual Reality set-up?

While all this is going on in the arcades, one company is beavering away to bring Virtual Reality to your Amiga. Bristol-based RC Simulations are shortly to release not one but three different game control devices which go beyond the standard plug-in joystick approach.

Last off the production line is the Free Spirit. This device looks like a baseball cap but contains a bunch of 'state-of-the-art' sensors. Wearing it will enable you to control various aspects of a game by tilting your head in a particular direction. For example, in a flight simulation, you could fly using the standard joystick/mouse/key combination, but control the missiles and guns using your head.

Free Wheel is a life-sized steering wheel which connects to your Amiga and offers you either digital or analogue control over your games. Whereas such controllers are normally fixed to your desktop, the Free Wheel is held in the air or rested on your knee.

The Free Flight is a free-floating joystick. Special angular sensors inside measure the movement of your hand, and the data is sent to your Amiga to be used in gameplay in the same way as a normal joystick. All of these devices mean that you are not 'tied' to your Amiga but are allowed free movement while gameplaying. The Free Flight will be available in mid-November at around £39.95, while the Free Wheel is likely to be available in early December at £39.95 for the analogue version and £29.95 for the digital version. The Free Spirit is unlikely to appear until early next year. *(RC Simulations 0272 550900.)*



Legend Quest: one of the 'experiences' (games) for the new generation?



It might not look like it, but this is just a glorified Amiga 3000; impressive stuff!



The smoke, the machines, the hidden Amigas. This was the launch of Virtuality in the UK, the time when VR came out of the comics and went tearing into the arcades.

A dudette wearing a Visette (the head-set) – in 20 years' time we will look back at these hefty bits of entertainment kit and laugh in astonishment. But for now, they are the way forward for games players. (Or so we are told.)



handle the graphics? "Apart from a small controller board, the external circuitry is used only for graphics. The Amiga is very good at handling everything else because of its multi-tasking capabilities – that's why we chose it. Obviously the Amiga's graphics are good, and its sound is good as well, which are added bonuses."

CD-ROM is used in all the Virtuality systems. For example in *Flying Aces* and *Legend Quest*, the latest 'experiences' (W Industries' hype-laden term for what we call games) released by the company, CD is used for sound and music. According to Matt, though, they "do expect to be using it for other stuff in the future, such as storing graphics and other data."

So as well as being a great machine which can turn a hand to many different tasks, the Amiga also plays a major role in one of the most exciting and innovative developments in the history of entertainment. W Industries' director of software engineering, Al Humrich, explains why they chose the Amiga for use in the system: "The Amiga has several advantages over other computers, with features that are very useful to us, including the fact that it's easily expandable. Also the low cost made it an obvious choice."

Having played on one of the original Virtuality machines, with a game called *ExoRex*, I found the graphics rather blocky. Have they developed since the release of the first VR machines?

"Although the graphics have become more detailed, the method of creating them hasn't really changed," says Matt. "The original experiences used fairly rudimentary graphics, created using filled polygons to achieve the required speed. The latest graphics are still polygon-based but because of the advancements in graphics speed they are now far more detailed.

"As for the future – again, there is so much scope for us to learn about real-time 3D graphics. There are always plans to advance them, but it's difficult for us to say what's going to happen even in the next two or three months. It's basically the same as the home computer industry – technology advances so quickly it really is incredible."

This is a statement that we, as Amiga owners, can directly relate to. The Amiga has been updated and remodelled on numerous occasions, and recently new models have appeared such as the A4000 and A1200 with an advanced chip set and impressive processing power. Can we expect W Industries to embrace such technologies as they are developed, making Virtuality faster and more realistic?

According to Matt, the one feature of Virtuality machines which puts them above their competition is the "upgrade-ability". Yes, but is there a direct relationship between the Amiga and this? We turned away from the sales pitch and back to Al Humrich at the software development end and asked the question again. He agreed that there was a relationship between the versatile and evolving Amiga and the upgradeable Virtuality machines that were controlled by Amigas.

> "The Amiga has several advantages over other computers; it has features that are very useful to us, including the fact that it's easily expandable."
> Al Humrich, W Industries

We asked Matt if he sees Virtual Reality taking over from video games in the future. His answer was, shall we say, predictable: "I think that almost without question VR will completely take over video games."

Without doubt, VR is an exciting area of computer gaming, and unsurprisingly the Amiga is at the forefront of this new and innovative technology.

The question that remains to be answered is not *whether* VR will come to the home but *when* the Amiga developers are going to bring it.

LEGEND QUEST

Legend Quest is the first multi-player game from Virtual Reality Design & Leisure (VRDL) and W Industries.

It sees up to four players in *Sword and Sorcery*-type action, exploring a series of virtual dungeons while avoiding any nasties. The Director of VRDL, Justin Webster, designed the game, and W Industries wrote the software to implement the designs.

Players play an Elf, Human or Dwarf, and their on-screen characteristics will change according to these choices. Other changes may also be made to the players, such as pointy ears, eye colour, and clothing. To make the experience even more believable, a 'Vocalizer' is included in each of the players' helmets. This device alters the sound of each voice depending on the character and its position within the dungeon. Although the Nottingham site enables only four players to link up and play, Justin is planning on opening two other sites in London and Los Angeles. In both these places, up to eight players will be able to link up and play. These sites are due to be opened early next year at the same time as franchises become available for other sites around the UK.

According to the people at VRDL, *Legend Quest* has been a great success since its launch earlier in the year. With an Amiga at the heart of the game engine, we can't say that we're that surprised. And VRDL are keen to keep on introducing more games. Their next epic production, *Grid Warriors*, will make use of new eight-player sites in the UK and abroad – it's a futuristic power struggle to gain ultimate control of the Earth.

Battling over several different types of terrain, the players will grow in strength with each successive victory. The development of more games, better technology, and the continued use of top-quality Amigas bodes well for this entertaining revolution.

Soft reality

Virtual Reality in your own home. Could it really be a viable proposition? The only people who really know are the software houses, the people who make the games. So we asked five of the UK's leading games developers and publishers what they thought of Amiga-based VR...



Danielle Woodyatt of US Gold: "The idea of Virtual Reality is an absolutely brilliant one. As far as home VR is concerned, though, I don't think it will happen – or at least not for a number of years. It's just like a few years ago, when kids wanted coin-op arcade games in their house. That didn't happen, but they did get games consoles. VR is a totally different area."

Ken Lockley of Ocean: "Obviously Virtual Reality is the next big thing in entertainment. I reckon we should see a basic VR system in the home within two years, but it'll take about five years for anything decent to come out.

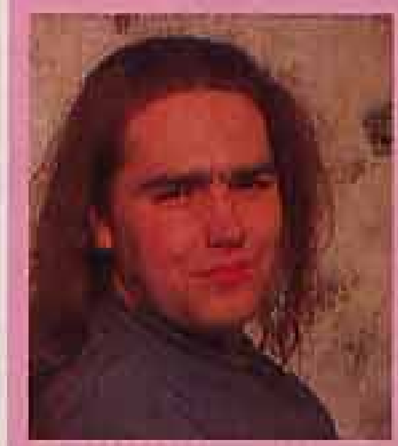
"The intervention of the CD as a means of storing computer data will improve things considerably."



Caroline Stokes of Virgin Games: "VR is definitely the way that things are going to go. It's an escape, in a similar way to a holiday, a book, a film or a video game. To be able to do VR on your Amiga would be amazing.

"I do think that it's one step nearer being a couch potato, though. I mean, more kids will stay in their virtual world rather than going to experience real life."

Steve Perry, Systems Manager for Microprose UK: "We already work quite closely with RC Simulations. Regarding their Free Wheel and Free Flight products, if the Free Spirit is released, we will consider using it in our simulations."



Jon Hare of Sensible Software: "At first you'll get people producing VR *Space Invaders* – you know, not really using the technology to the full. As time goes on, new pigeon holes will open up and software will be developed to fill those pigeon holes.

"If somebody could get themselves a decent sex life out of their home computer, domestic VR would be incredibly popular..."

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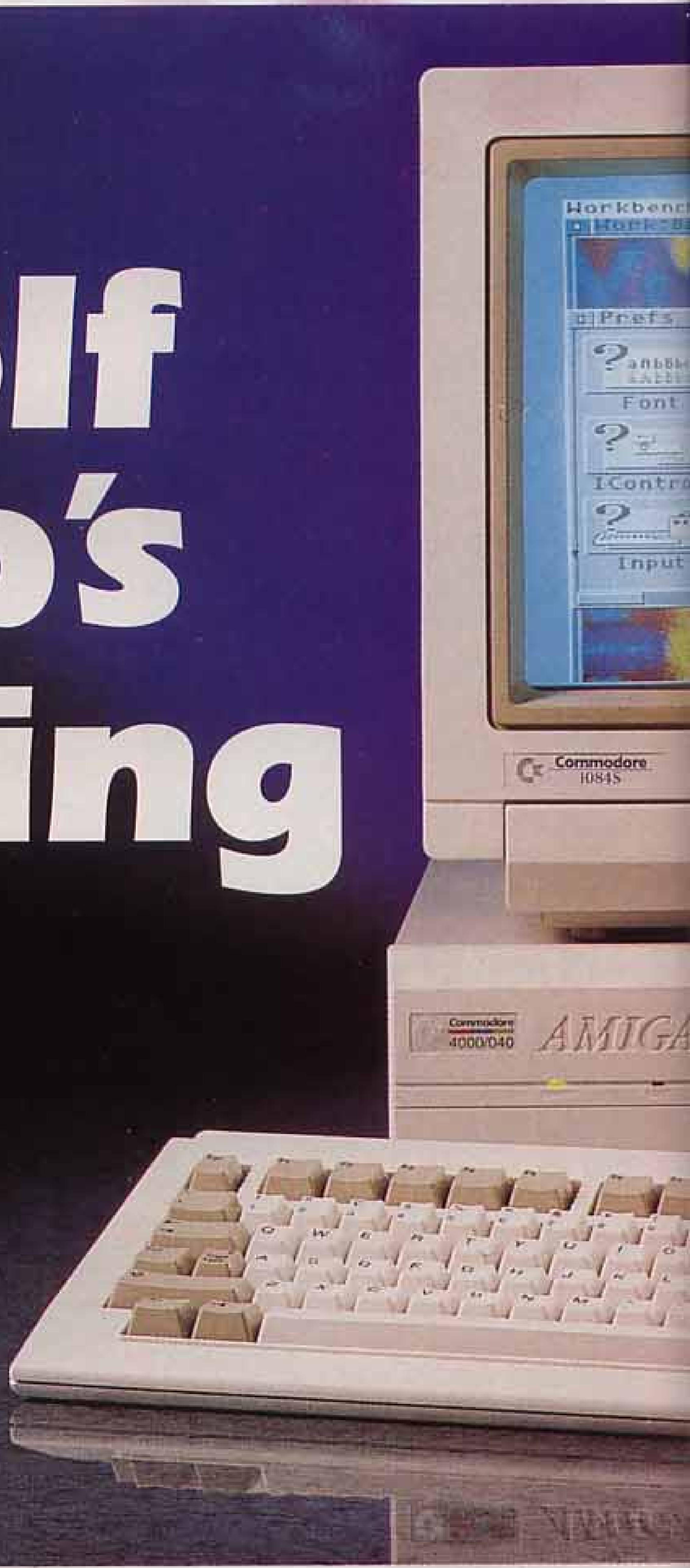
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Does the A4000 go faster than Linford Christie? Does it have more front than Madonna? Does it have more charm than Omar Sharif? Read **Pat McDonald**'s words and find out.

The Wolf in Sheep's Clothing



AFTER A DRASTIC price slash on the A3000, the new top-dog Amiga has finally arrived. For the asking price of £1,721, excluding VAT (which puts the RRP at about £2,100), you would expect something rather special. Have Commodore delivered, or is the Amiga at the end of its development?

In many ways the A4000 is an answer to the critics who said Commodore were not doing enough research and development; that although they dominate some markets, in a couple of years the Amiga will be forgotten.

Everything is new, or has a changed element. The keyboard is exactly the same as the A3000/CDTV, except it's a paler shade of beige and the connector is PS/2 like that of the CDTV, rather than the traditional 5-pin DIN plug. The mouse is of a very-rounded design and the floppy drive is of the HD (high-density) variety, which means you can squeeze up to 1.76Mb of data on to a single disk.

At the back you've got the least number of connectors ever seen on an Amiga. Serial, parrallel, floppy and video – that's your lot. Gone are the SCSI hard drive connector and the 31KHz connector of the A3000, and the composite video connector of all previous machines. You do get an adaptor so that you can plug in a 15-pin 31KHz monitor – but it's not built into the machine.

One thoughtful feature is the Euro powerout connector (commonly called the 'kettle lead') so you can get power for your monitor from the machine, rather than needing a second mains plug. Another is the lock, which means you can prevent people turning it on.

Under the bonnet is a wealth of new Amiga hardware. The central processing unit is a 68EC040. This is similar to the powerful 68040, except that the MMU (memory management unit) and FPU (floating point unit) are missing. The only reason for fitting this chip is to keep the cost of the machine down.

Even with a cut-down processor, the A4000 manages a respectable performance in terms of computing power – it shows a clean pair of heels to any PC, 486DX included. There is a price to pay for performance and the cost reflects this to some extent.

So what? Amiga accelerator cards, including 68040 types, have been around for years. The difference is that putting in a faster CPU is done at the factory while the machine is being built. It's a lot cheaper than accelerating a 16/32-bit Amiga (anything previous to the A3000) up to the same specification.

More than that is the design of the A4000 which is geared towards easier accelerator boards. It means that when there is a call for a certain processor (68050s or 68060s) being built into an Amiga, all Commodore have to do is change the processor board.

So the A4000 has a competitive lifespan second to none. Computers usually age very fast indeed (they can be obsolete within a matter of years or even months). The A4000 has a longevity to it that up to now has been very rare. It's ahead, and in a position to stay there.

Behind the processor is the excellent double-A chipset. For more details on what this does, see the accompanying boxout. Suffice to say that the graphics capabilities of the machine are the best that the Amiga can possibly achieve on monitors currently in service. Especially if your chip RAM is of the Fast Page mode variety (basically, very fast RAM).

The memory support is good, but expensive. The A4000 is expanded on the board by inserting 32-bit single in-line memory modules (SIMMs), in a similar way to that of certain higher-end accelerator cards. Up to 16Mb of fast and 2Mb of chip RAM are supported on the board in an easily accessible area.

There is a jumper on the board marked 'Chip RAM 2Mb/8Mb' that I have not seen documentation for, but it seems to indicate you can have up to 8Mb of chip RAM. Each of the Zorro III slots (32-bit expansion slots) can have more memory – up to 64 Mb per slot of fast RAM, giving total expansion of 272 Mb of fast RAM and 2-8Mb of chip RAM.

EXTRA SOUND INPUT

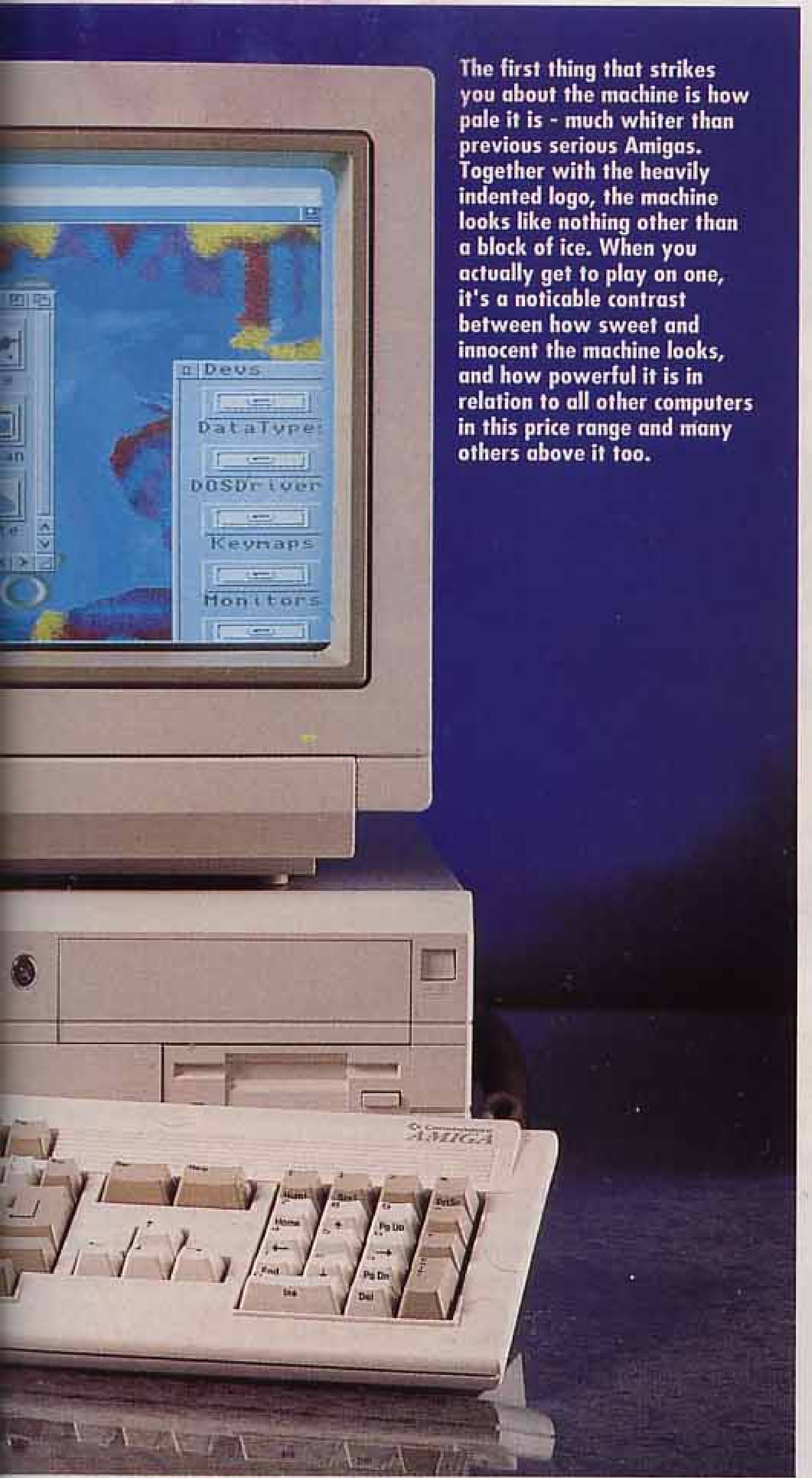
Although the A4000 contains much the same sound chip as any other Amiga, one feature that could be useful is an internal connector for sound input. The idea is that you can feed stereo sound into the machine and play Amiga samples over the top. I don't know if much sound gear will come out that uses this feature, but it's ideal for CD-ROM sound mixing and saves a lot of extra cables.

STORAGE

The A4000's standard HD floppy drive is excellent for storing single 24-bit graphics at normal broadcast resolutions – something that wasn't guaranteed with the old double-density disks – and there's even a dust flap on it. You can fit an extra floppy into the machine below the built-in one, but the second drive has to be of the half-height variety, otherwise it won't physically fit.

The IDE hard drive, while reliable and simpler than SCSI types, is a bit slow in my opinion. This doesn't manifest itself in everyday use, but if you're into big files like those created by 24-bit graphics, you'll be hard pressed not to yawn at the saving speed.

One final note is that a CD-ROM drive is planned for the A4000. With its graphics capability, specific CDs for educational training is one area that Commodore should hit rather well.

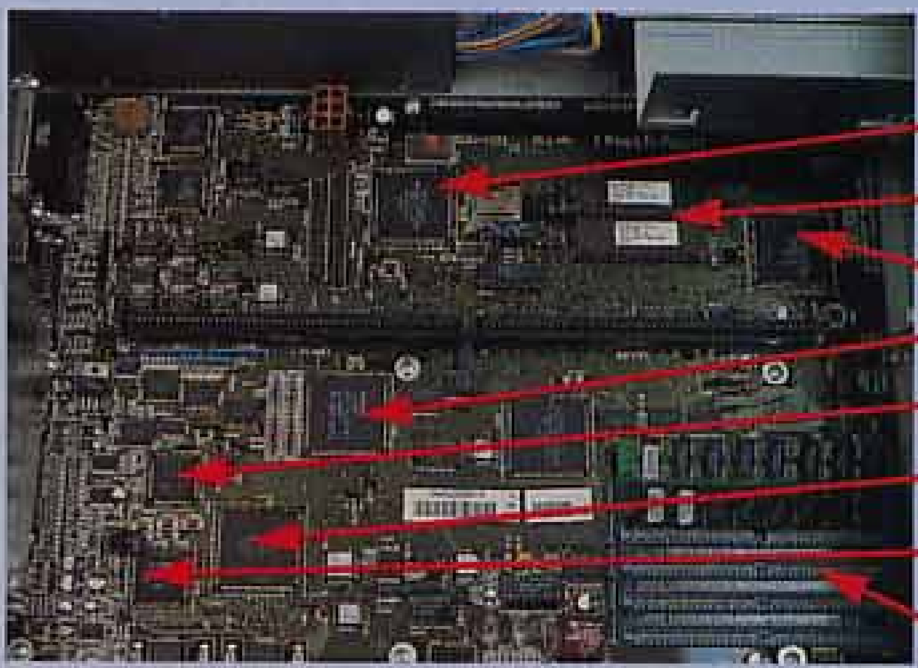


The first thing that strikes you about the machine is how pale it is - much whiter than previous serious Amigas. Together with the heavily indented logo, the machine looks like nothing other than a block of ice. When you actually get to play on one, it's a noticable contrast between how sweet and innocent the machine looks, and how powerful it is in relation to all other computers in this price range and many others above it too.

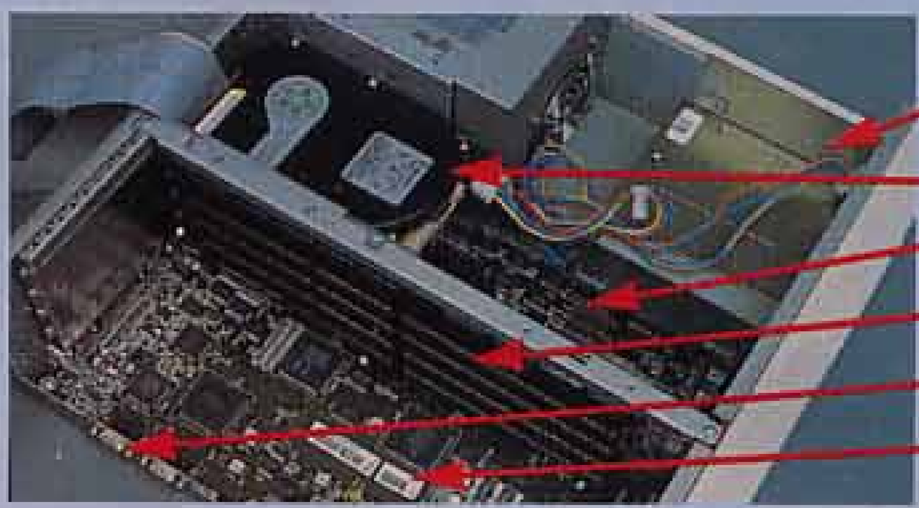
VIEW FROM THE REAR



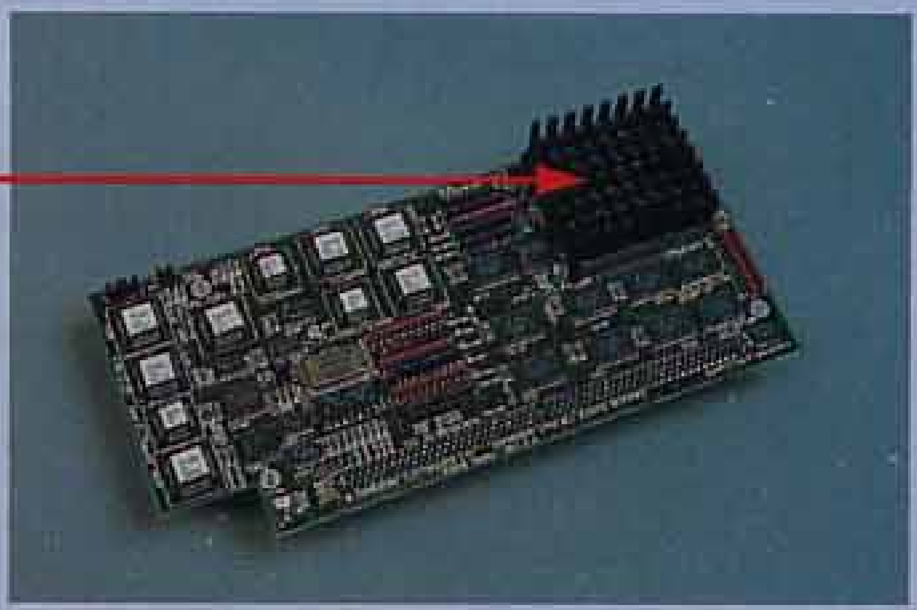
THE HARDWARE



A QUICK PEEK INSIDE...



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The actual 68040 is hidden beneath a massive heat-sink

This is the really stunning bit of the A4000. The processor has its own separate board – so if you want an even faster machine in years to come, you will be able to change just this board for performance that's outrageously good by today's standards.

While this is certainly more convenient than plugging very small ZIP chips into an A3000 (an operation requiring a subtle blend of brute strength and gentleness) 32-bit SIMMs are roughly twice as expensive as their ZIP equivalents. The price will fall, but starting from a high position this might take time. Megabyte for megabyte, ZIPS are cheaper.

Kickstart 3 has been burnt into 32-bit ROM chips, bypassing the need to copy it to 32-bit memory to gain more speed. The combination of hard drive, 32-bit architecture and a 68040 in charge means you can be up and running within seconds of switching on. It makes the machine a giddyingly fast booter.

However, it could have been even faster. The in-built hard drive is a Seagate IDE type, much the same type as found in most IBM PC clones. It's cheap and, to be honest, a bit slow, especially when saving files. The connectors to fit a second IDE drive on top of the first are included, but no more hard drives can be fitted without an extra controller.

To many people's ears the worst feature is that the sound is no better than that of any other Amiga. The 8364 Paula chip, while a different shape to previous versions, is exactly the same in terms of specifications. Does it make sense to keep using the same sound chip for seven years or more? The 8364 in the A4000 is surface mounted and cannot be upgraded by you if a replacement comes along.

That's a whistle stop tour of the machine. As you may have twigged by now, the A4000 is not all dream machine. In many areas (such as the processor, chip set and memory) it is the best technology you can buy for the price, but the sluggish hard drive, lack of connectors and second-class (by Atari Falcon standards) sound may deter people from getting too interested.

Still with me? Good. Commodore had four conflicting interests to resolve in the A4000. It had to be very fast without being too expensive, and have better graphics without being too incompatible. The aforementioned Falcon is very incompatible with ST software and the culprit appears to be the better sound chip.

In terms of compatibility, the chip-set designers and Kickstart programmers got together and put in a very nice feature indeed. If you hold down both mousebuttons, you can not only choose which drive you want to boot from – or disable others to save on memory – you can also choose whether you want the original chipset, the ECS chipset (found on the Plus and A600) or the best available which, on an A4000, means the double-A chipset.

Commodore reckon about 60 per cent of current Amiga software is compatible. My own opinion is that this is about right, if public domain and older games are kept out of the equation that is. Stuff that hits the metal hard, is compatible with ECS and doesn't mind a 68EC040 seems to work fine. *Links* updates in a couple of seconds; *Formula One Grand Prix* updates in real time; and *ProFlight* (the only flight sim tested that worked – failures included *Birds of Prey* and *MiG-29M*) is a very smooth, snappy flight sim.

Few people are going to buy the A4000 just to play games on it though. In terms of non-games that work with the machine, business and creative software is by far the most compatible, with business being the best overall. The reason for this is a little bit involved but goes like this... A lot of software that

Continued overleaf

doesn't use libraries to find out which processor is running will have a problem. Quite a lot of programs go 'wow! A 68040! Great, I'll hit the floating point unit [FPU] that's built into all 68040s'. The program will fail because the new EC version – the 'economy' version – does not have a FPU.

You can make the A4000 more compatible by fitting a true 68040, with all the bells and whistles. You don't believe me? Then why does the user's guide tell you how to do it? Anyway, 60 per cent compatibility with current commercial software and maybe 80 per cent with a true 68040 is pretty good.

More remains to be done though. For a start, a HAM8/256-colour paint package is needed – *Deluxe Paint V*? Maybe. The graphics on these pages were processed using *Art Department Professional 2*, which supports HAM8 and works well on an A4000.

The Amiga market isn't a vacuum outside of the computer industry. Apple have been busy slashing the price of the Macintosh, and the PC comtemptible sellers keep dropping prices. £3,000 for an A3000 two years ago was silly – the machine, while good, was just too pricey to make a serious impression.

Perhaps £2,000 for an A4000 is equally as silly. I don't see that Commodore have that much of a margin on the A4000, especially in the United States where it is much cheaper than the UK, but with a tougher battle ahead of it. Amiga sales over the pond have been steadily eroded over the past few years. I think the reputation of 'the most powerful computer' will help Commodore regain lost ground.

The A4000 is not an everyman's machine. If most people upgraded to them, chances are they would be annoyed to find that most of their software collection didn't work, while finding little at present that uses the extra features. However, the A4000 is a huge lure to technophile high-end users.

If you're interested in 3D modelling, high-end design (especially CAD) or any application that makes use of graphics that outshoot most monitors, then this is a machine as sexy as they come. If you want the best in computing power too, then the A4000 is the only game in town. With it, desktop publishing is made a serious outlet, and video is raised to the point that more expensive workstation systems will suffer.

So is it worth running out and buying an A4000? If you are in need of a really fast machine to munch its way through maths-intensive tasks, then yes, it is the business. If you want to use a lot of current software, it may be better to wait for double-A-compatible software and soldier on with an A3000 or older Amiga with an accelerator. The A4000 is a hard-hitting machine with a long lifespan – buy one now and you can keep expanding it until the turn of the the century.



RIGHT: Proflight – the only simulator tested that worked perfectly with the AA chipset. Hisoft obviously code legally, other software houses will have to.



BELOW RIGHT: F1-GP is the best sim on the Amiga. The update is so fast that you can react much more smoothly to the bends and chicanes.



BELOW: Performance is 38 times faster than an A500, 138 times as fast as a bog standard PC XT. 17 million instructions per second is a speed few machines can offer at the price.

THAT DOUBLE-A CHIPSET IN FULL

What can this miraculous new set of Agnus and Denise (sorry, they're called Alice and Lisa) chips produce in the way of graphical marvels? Much depends on the architecture of the machine, but in the case of the A4000, you've got everything. However, not all new Amigas are going to have the lightning-fast Page Mode RAM chips.

Take a look at the pictures: Lisa and Alice can display all the old resolutions. In addition, higher resolutions can have more colours – it would be dangerous to say that all resolutions give all colours, but that's it in a nutshell. Rather than being limited to six bitplanes (64 colours) you can now have 128 or 256 colours on a screen – or, for still graphic screens, 262,208 colours that you get from HAM8. Extra half brite mode is usually unnecessary because you can have 64 unrelated colours of any hue or intensity on-screen at once.

The ECS super hi-res mode, for instance, gives you 1,280 pixels across the screen. You can have 256 or 512 pixels vertically. Full overscan is supported. You want colours? You got 'em. The ECS productivity mode has been renamed as AGA, although really it takes its name from the PC VGA standard. This enables you to run interlace graphics without using interlace – so you can have 640x512 resolutions, again with any of the new colour modes. Maximum resolution is about 800x1,024, although the edges are missing on most monitors.

On top of this, you can use hardware scrolling at maximum resolution (quarter-pixel super-smooth scrolling), sprites always have 16 colours and they can cover the whole screen. Also, the copper arrangements have been totally changed, but there's nothing in the documentation about it. I guess that the copper can access on pixel boundaries, as opposed to the old system of four- or eight-pixel boundary copper timing.

The real difference on the A4000, though, is that the custom chips can read and write four times as much data at one time than can those of the original Amigas, and twice as fast as an A3000. So its graphics handling is the fastest on any Amiga, whether it's filling polygons or cookie-cutting blitter objects. Without the double-A chip set, the A4000 would be a whizzo computer slapped on overpriced, old technology. With it, the cutting edge of the Amiga is keener than ever.



This is a test image, a 24-bit picture with up to 16 million colours and shades. Image size is 1200x512.



Here we have that same picture displayed in HAM8 mode. The A4000 can easily display this image.



Smaller machines may be more limited. This picture is now 640 X 1024, with 256 colours.



For comparison, this is the best that ECS and older Amigas can handle. The resolution is now 320x512.

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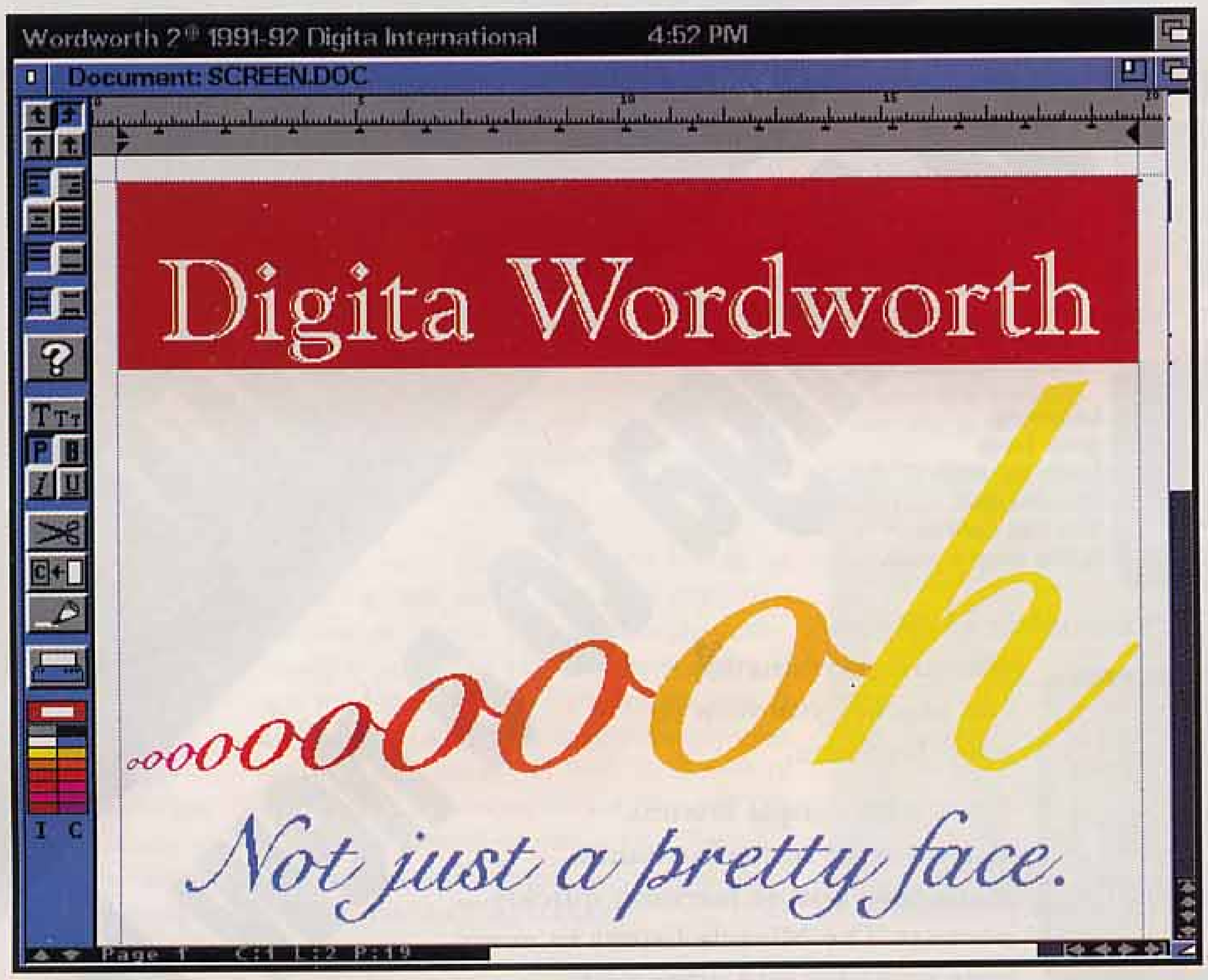
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Workbench 3

Is Workbench 3 the best version yet?

Pat McDonald spills the beans.

SOME MONTHS AGO, Commodore were expected to release Workbench 2.1. This was going to feature the CrossDOS PC file transfer utility from Consultron, as well as some cute extra features. The arrival of Workbench 3 seems to indicate that 2.1 was too small an increase for what is a big overhaul to some of the basic Workbench mechanics.

Good features, like the in-built support for scalable Agfa Compugraphic fonts, the quite excellent Preferences, and the ARexx programming language are all still there. CrossDOS has been thrown in for some extra file compatibility, but there are a number of important new standards.

Multitasking utilities which are designed to work alongside applications are now called Commodities. Supplied ones include AutoPoint (the program that selects windows just by pointing – you don't have to click), a really excellent screen blanker to save wear and tear on your monitor, and CrossDOS itself. You can also define strings for function keys by using FKey, and the Commodities drawer is the ideal place to keep your anti-virus programs too.

The Prepcard utility for preparing PCMCIA cards is included, although the A4000 doesn't actually have a card slot. The rest of the Tools drawer would be easy enough for a Workbench 2 buff to work around. The Utilities drawer is rather empty, containing only the Clock program, the More text viewer and a spiffing program called Multiview.

Multiview enables you to view IFFs. It's supposed to do animations too, but the review version's data type file for animations is missing. Ho hum. You can display pictures on Workbench if they use 256 colours or less, but if they are HAM pictures then they open on their own screen. You can also cut brushes out of pictures with MultiView and print them out, which saves loading a paint program when you want to check a picture.

The real differences in Workbench are a bit deeper. Because the double-A chipset has 256 levels of red, green and blue per colour, rather than the old 16 levels of RGB per colour – colour handling and selection obviously had to be radically changed. Workbench 3 uses a 'colourwheel' solution to help you change colours, and this function is available for programmers to use too, in the Gadgets drawer.

In my opinion, the best new feature that only Workbench 3 has is Locale. The basic idea goes like this: on the Locale disk is a selection of languages that WB3 supports, most of them European. You choose a few preferred languages – in this country, English makes sense.

Here's the clever bit. New WB3 programs will check the Locale information for which language you have selected. Then it displays and inputs in that language. This is going to make the A4000 and most WB3 machines hot sellers on the continent, when enough programs are around that make use of this feature.

Up to now, Amiga owners have needed at least a smattering of English just to get by (because that's what most software uses). Now the language barrier is down... Well, what would you rather buy, a 'foreign' computer or one you could understand immediately?

With Preferences being adapted to use the double-A chipset, a whole new range of graphics modes becomes available. WB3 can now use the following range of monitors: normal NTSC and PAL (like the Philips CM8833 or Commodore's own 1085), multiscans (like the CBM 1960), VGA and SVGA (PC types – loads of choice here), as well as very new types like Euro72, DBLNTSC and DBLPAL (high-definition types). To be honest, if you want to see the very highest super hi-res mode, I would recommend a multiscan, multisync with a high dot pitch or an SVGA type.

Actually setting up WB3 to use any of these is a doddle. Just find the relevant monitor settings in the monitors drawer on the Storage disk, drag it into the Presets drawer in Preferences and select it with Screen Mode (very similar to the Workbench 2 variant). It actually takes less time to do it than it takes to read about it.

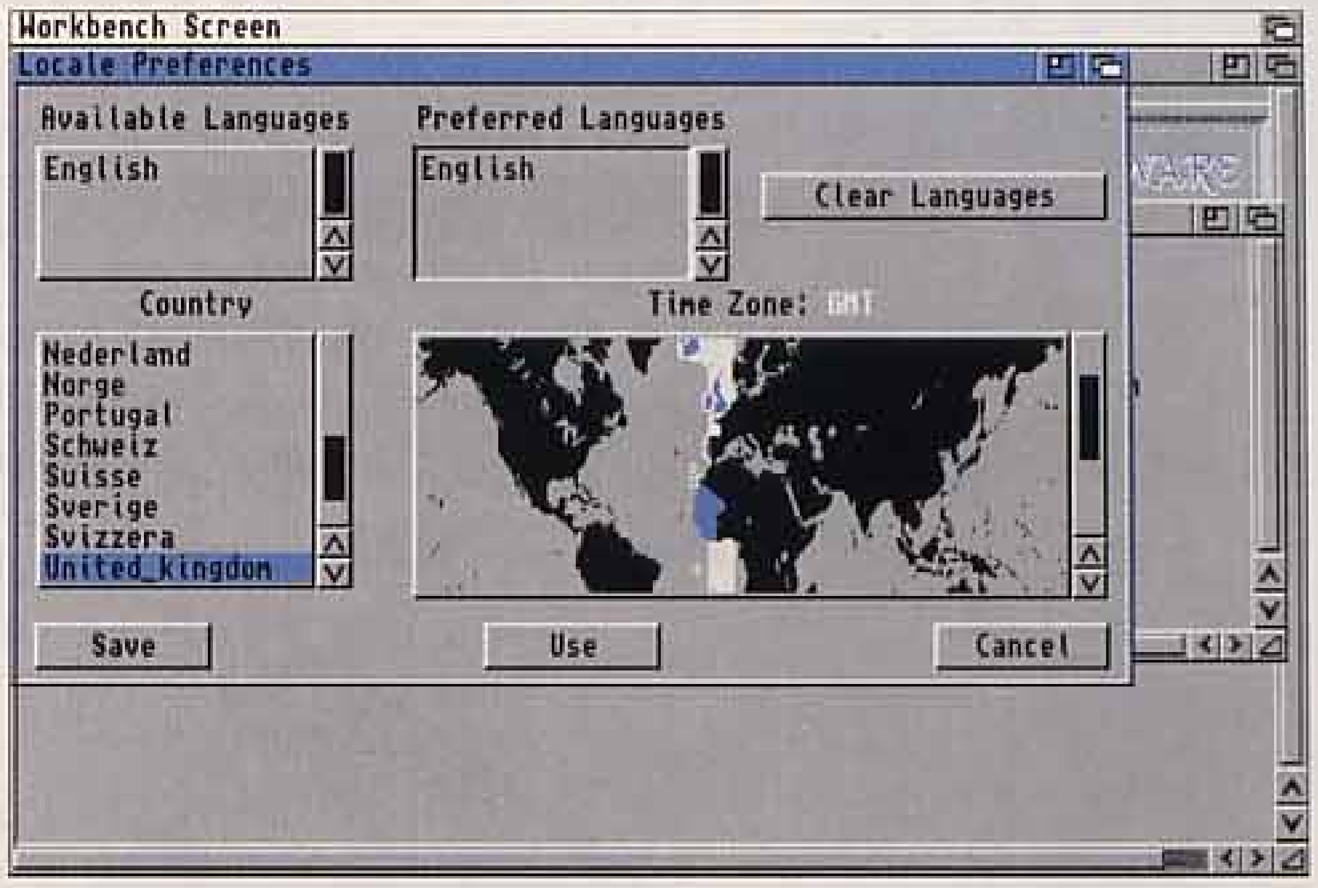
You can also customise WB3's look and feel much more so than previous versions. As well as changing the fonts for the menus at the top and the text used to display icon names, you can have an IFF picture as a backdrop, both for the Workbench area and also for opened drawers. Although you cannot edit the menus themselves with the supplied programs, this is possible with the right shareware utility.

One very stange feature is that you can choose a screen which is bigger than the physical size of your monitor. To move around it, you just move the mouse to the edge of the screen and it autoscrolls to the next bit. This seems a bit silly, but really it's very good for the partially sighted, who need the biggest, highest-contrast text possible.

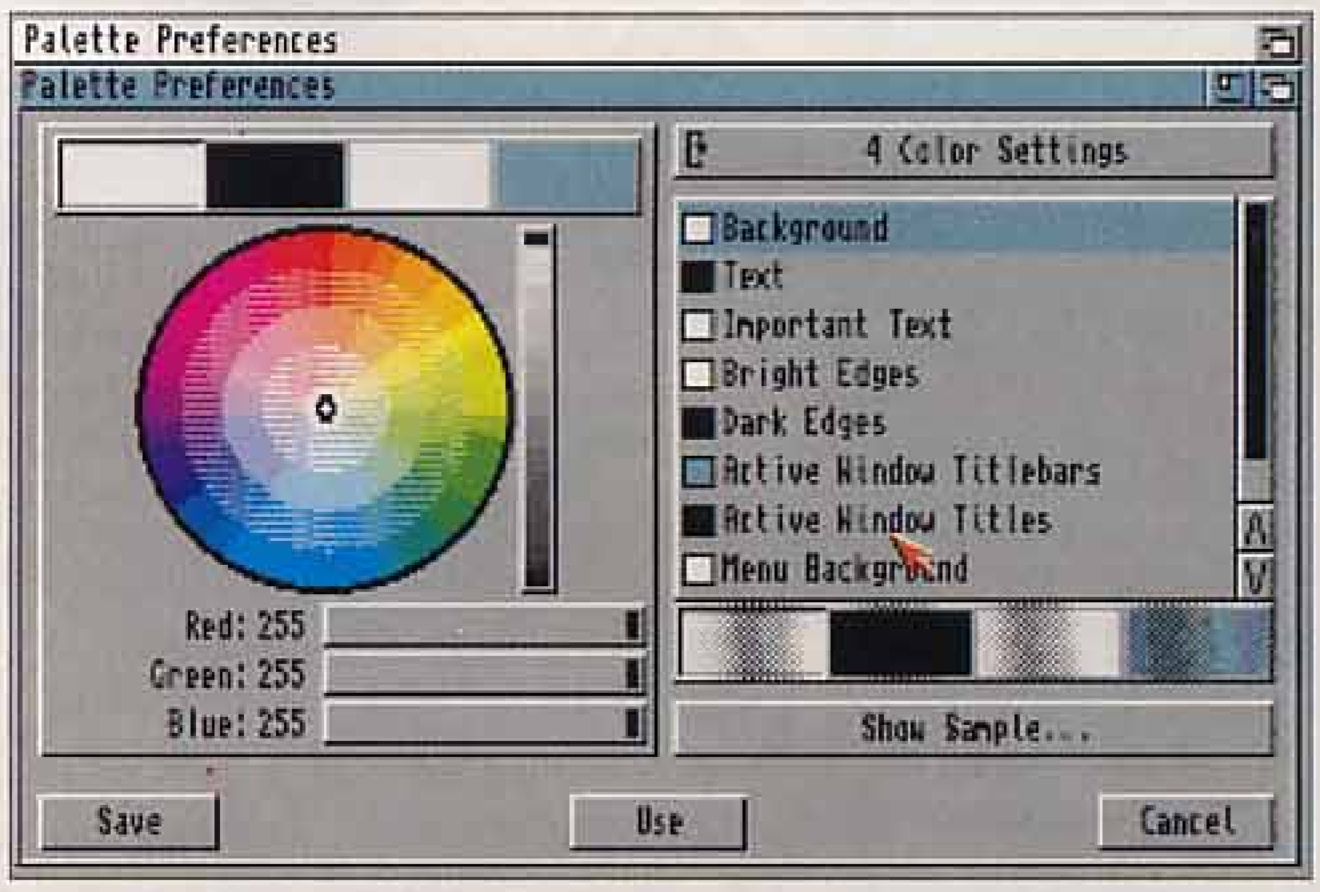
Some people will moan about WB3 being too much like WB2 – after all, WB2 was a vast improvement over WB1.3, so why isn't WB3 totally different? Commodore have seen fit to stick with the basic framework of WB2 and add lots of frills to make it more flexible and of more use to the 'minorities'.

Personally I really, really like WB3. It's more attractive than the rather mechanical WB2. You can customise much more and it uses the new graphics modes to the full. Some little bits worthy of a mention: a sampled 'error' sound for when the machine alerts you; a psychedelic screen blanker; and the Keys progam for examining your current keymap – very handy for when you know a character exists but you don't quite know where it is on the keyboard.

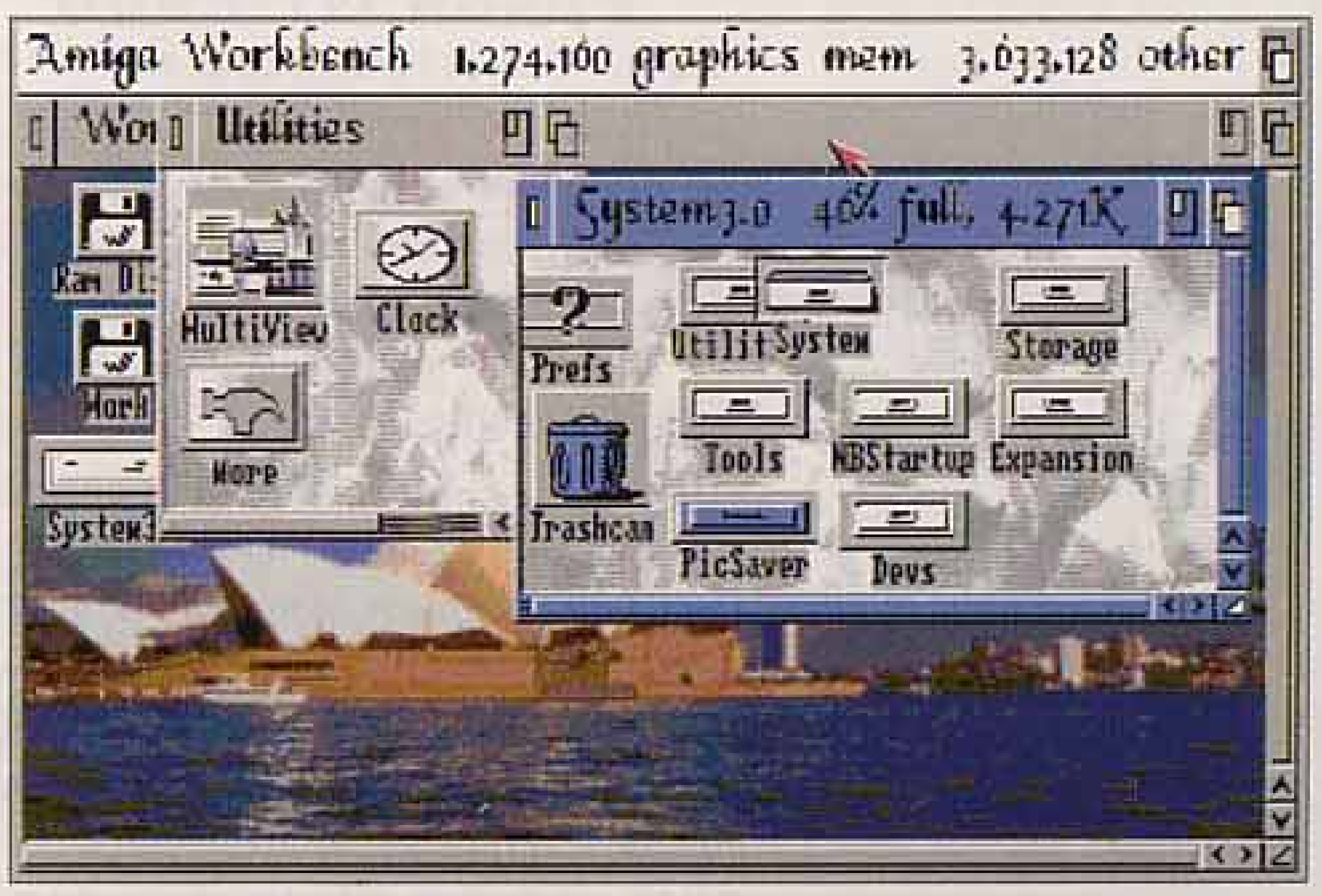
WB3 is not perfect, but it is the closest to perfection that Commodore have ever managed to get Workbench. It's more flexible than before, much easier to set up and more powerful than previous versions. For WB2 owners it's a lot of nice little changes, while for the WB1.3 users it's really quite astonishing. Top marks for effort.



The Locale tool is a damned clever idea. You simply select the language you want your system to use, and software automatically uses that language. A feature for future programs. The map of the world, by the way, is for finding out which time zone a given place is. It's useful for the system keeping track of the real-time clock.



Here's the sharp end of the new features – the colour wheel for palette and colour settings. Notice that each of the red, green and blue values can have 256 different levels, giving each colour one of 16 million different hues.



Workbench 3 gives you the tools to have the most customised, individual interfaces for computers ever. This is but one of myriad of possibilities, and you don't need a big IQ to perform these changes.



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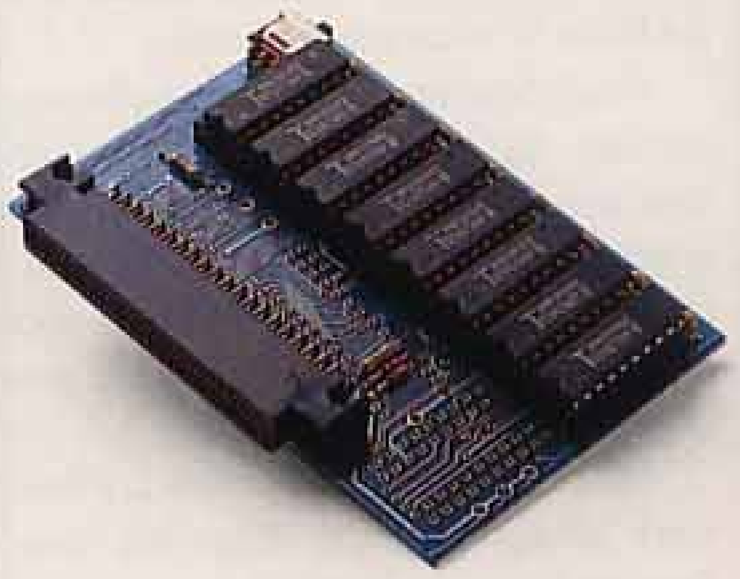
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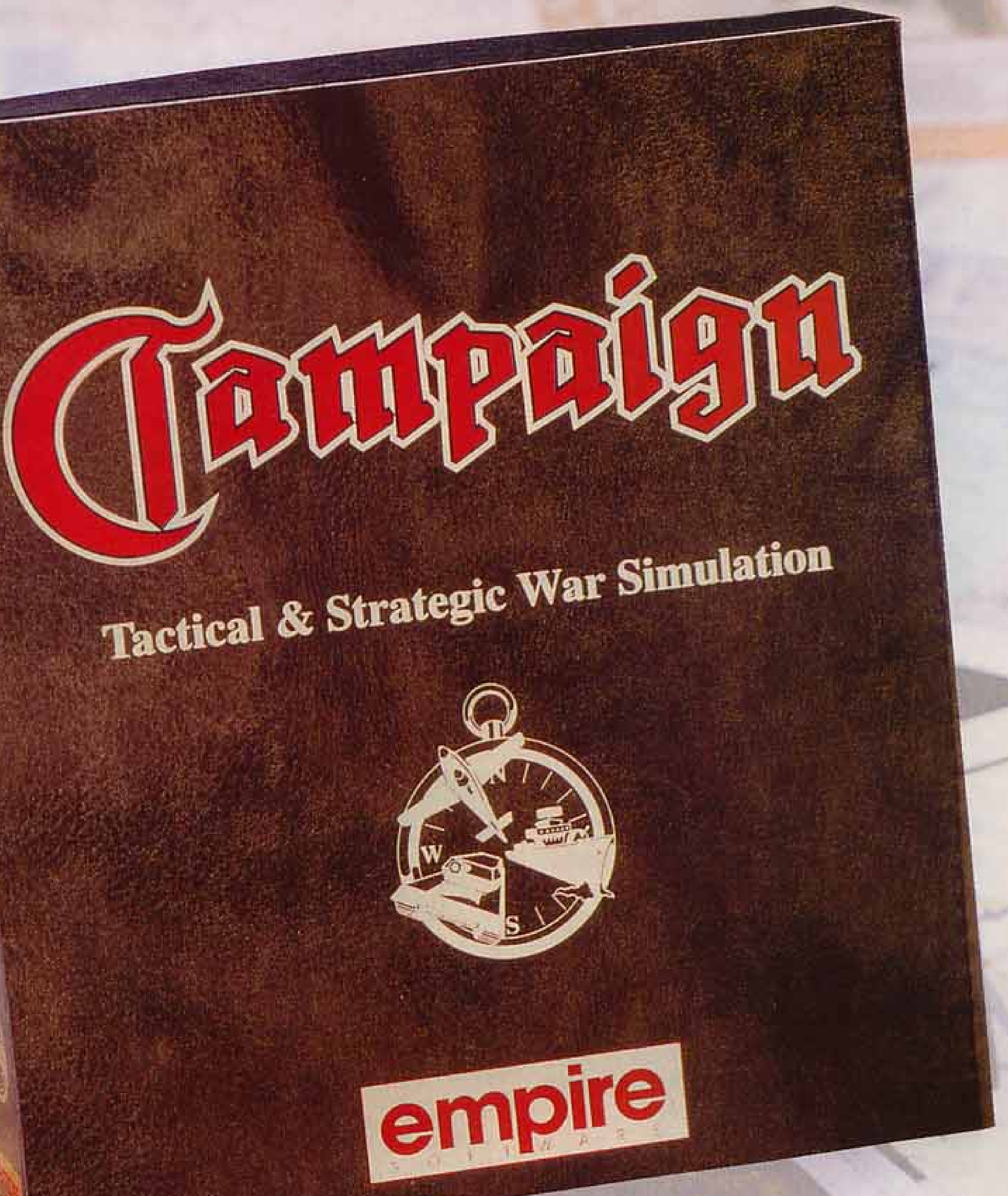
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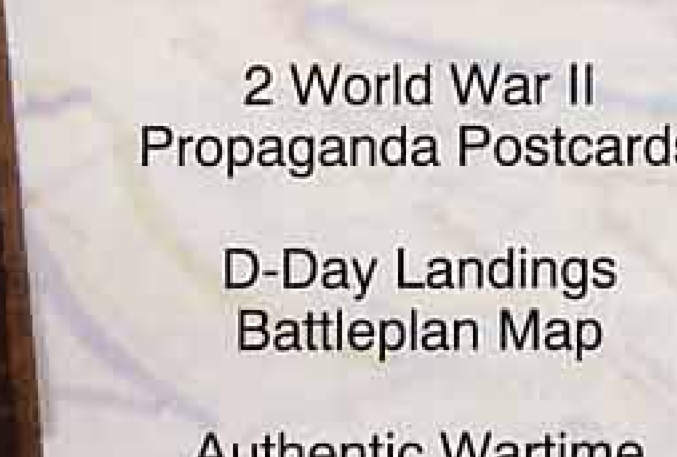
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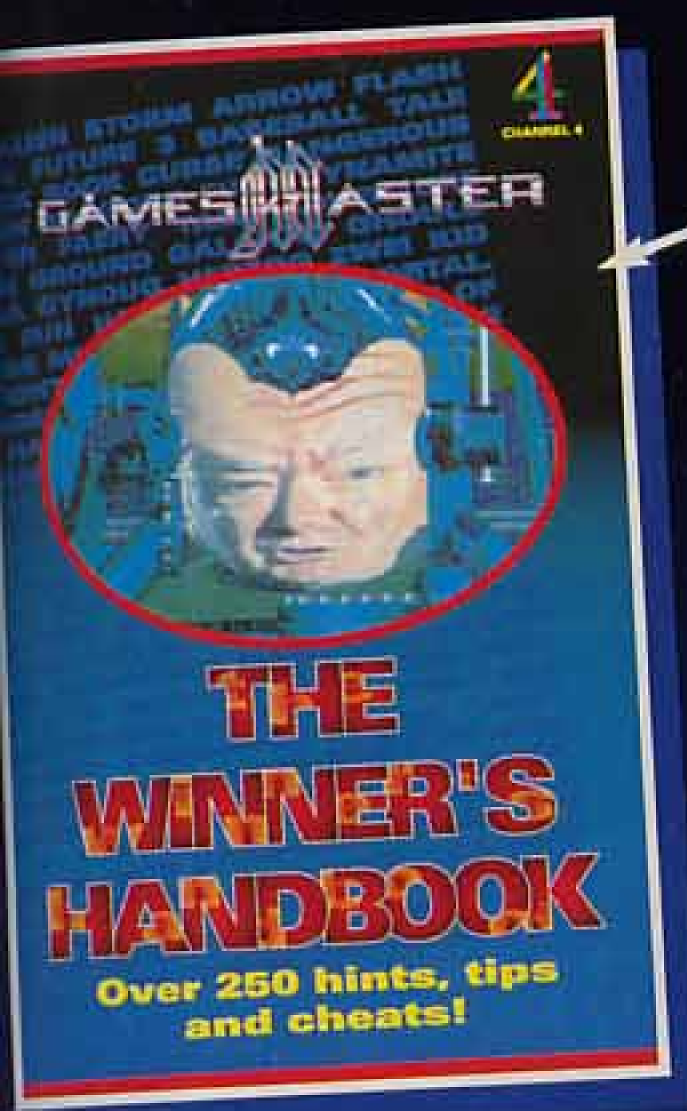


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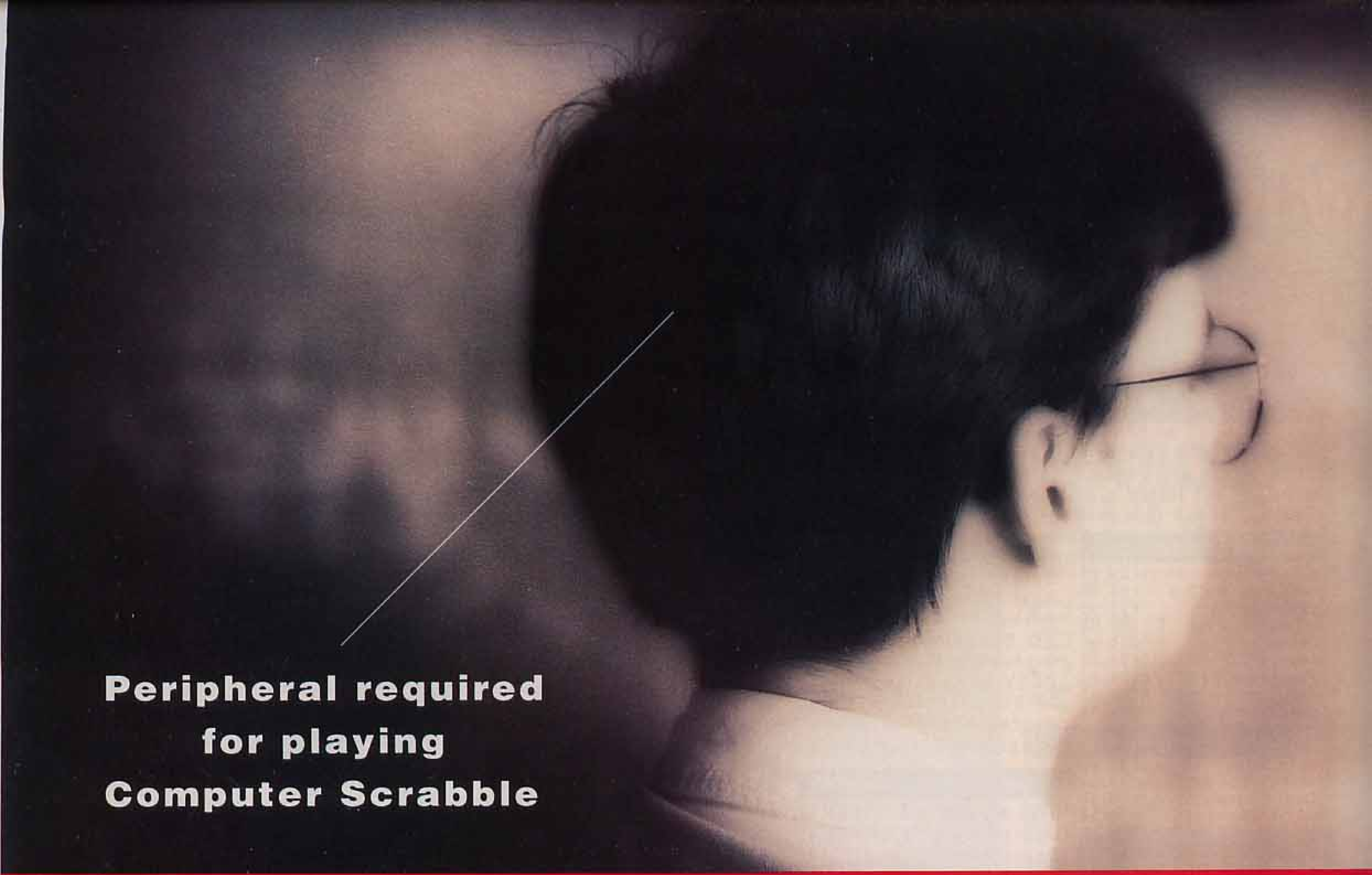
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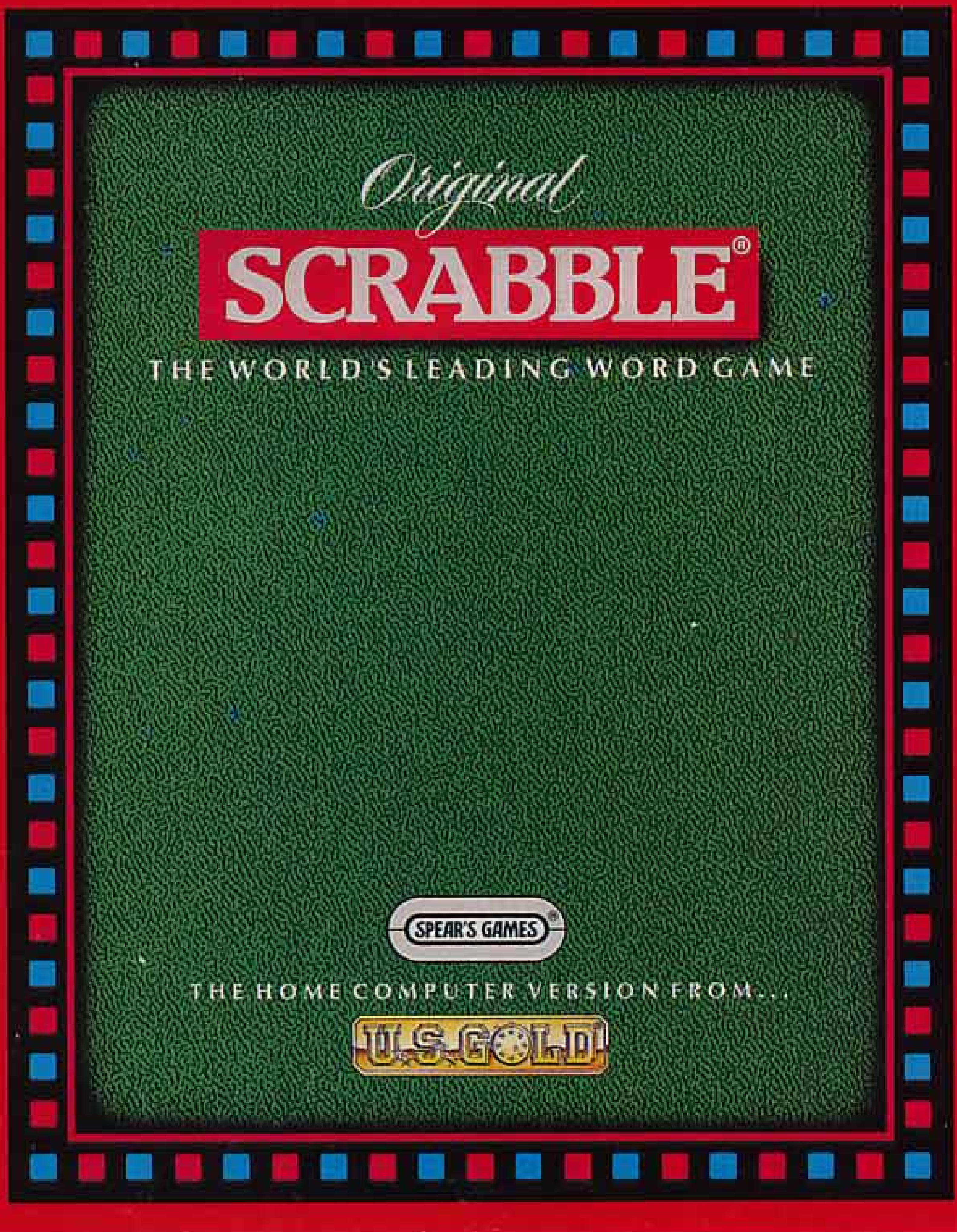
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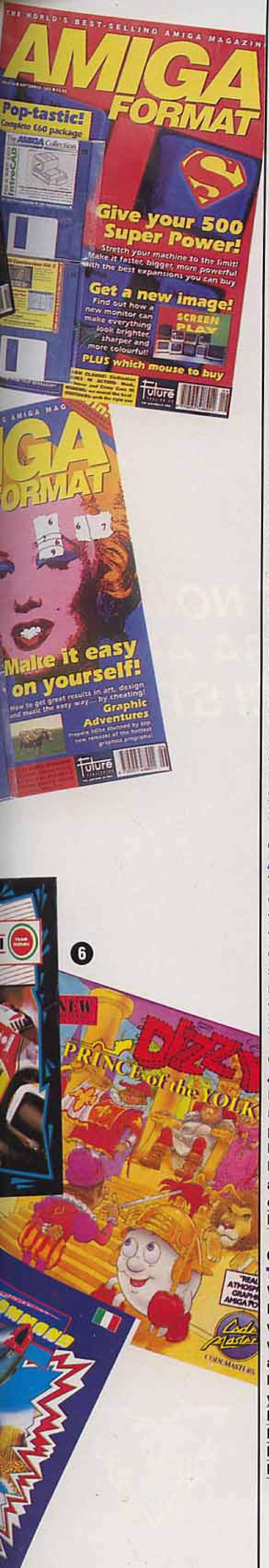
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ROBOSHIFT JOY/MOUSE SWITCHER BY MEEDMORE — £15.99

❸ NOW YOU CAN HAVE THE BEST OF BOTH WORLDS!

Workbench 2, as found in the A500 Plus, A3000 and A600, is a lot better to use – and yet some older programs won't work with it. So if you want all the benefits of WB2, but you don't want to give up on your favourite games, you can install both at the same time and switch between them at the press of a key! (Installation requires some expertise and may invalidate your warranty.)

KICK-OFF ROM SHARER A500 BY POWER COMPUTING	£17.95
KICK-OFF WITH KICKSTART 2 BY POWER COMPUTING	£55
KICK-OFF WITH KICKSTART 1.3 BY POWER COMPUTING	£39
KICK-OFF ROM SHARER A600 BY POWER COMPUTING	£29

DON'T MISS THE HIGH POINT OF THE YEAR!

The *Amiga Format* January 1993 issue is a real event. As well being the special Christmas issue of the world's best-selling Amiga magazine, featuring a game tips special along with all the usual top exclusive news, reviews and informative features, we're giving you two very special gifts away on the cover! The program that you'll find on the *Amiga Format* Collection Coverdisk is none other than the *AMOS* programming language; PLUS there's a free 100-page book, crammed to the gills with invaluable reference information for all Amiga owners! Don't miss out; get your copy at all good newsagents from December 12!

AMIGA FORMAT JANUARY 1993 ISSUE — £3.95

❹ ...AND KEEP A TRACK OF YOUR FLOPPIES

Yes, it's daft, but maybe it's the right kind of present for the Amiga owner who has everything – but not quite. This personal organiser-style index system ties in with colour-coded labels to make sure you know precisely what's on every single disk and can find the right one at an instant. No more endless searching through disk after disk to find the utility you desperately need!

FILE-A-DISK BY MD OFFICE SUPPLIES — £12.99

❺ BUILD UP YOUR SOFTWARE COLLECTION THE EASY WAY!

Throughout most of 1992, we've been running the exclusive *Amiga Format* Collection on our second Coverdisk, bringing you complete programs like the amazing fractal landscape generator *Vista* and the HAM paint program *Spectracolor Junior*. If you're new to the magazine or to the Amiga then you will have missed out, so why not build up your software collection by ordering back issues of the magazine which come complete with Collection programs. There's no better way to get your hands on some of the best software that's around – and to build up a library of the best Amiga information in print! (See Page 262.)

AMIGA FORMAT BACK ISSUES WITH FULL PROGRAMS — £5 EACH

❻ GET AN ALL-TIME CLASSIC GAME FOR AS LITTLE AS £6.99!

In the five years that the Amiga has been around, we've seen some truly classic games appear. Many of them still live on in the mythology of Amiga gaming, most rival the best new games coming out. Some have been lost, but fortunately some of these classics are now available as bargain budget buys, often costing you as little as £6.99. Why miss out on superb gameplay at a bargain price? Turn to our feature on Page 83 for full details of all the classic games you can now buy on budget...

BUDGET CLASSIC GAMES — FROM £6.99

❼ A BUG-LIKE STICK THAT'S PARTICULARLY SLICK!

Both performance and looks set this joystick apart from the crowd! Its name tells a tale – it looks very, very weird indeed. Yet this loose, responsive stick is one of the best you can use for any game that requires instant direction-switching and precise action.

BUG JOYSTICK BY CHEETAH — £14.99

❽ DRIVE LIKE THE WIND – LIKE A DRIVER!

Here's a set-up that will make your driving games – and flight sims, and all kinds of other games – a whole lot more involving and realistic! Yes, it seems like a bit of a 'here today, gone tomorrow' novelty idea, but the foot pedals bring a whole new physical element to all kinds of gaming: they can be set up to activate whatever controls you prefer on your game. And the steering wheel may at first seem odd, because you hold it in mid-air and it works from its in-built tilt-sensing switches, but it also brings a new dimension to gameplaying. Don't just dream – do it for real!

FOOTPEDALS BY QUICKJOY/SPECTRAVIDEO	£24.99
FREEWHEEL BY LOGIC 3/SPECTRAVIDEO	£29.99


No Second Prize
OUT NOW FOR
AMIGA AND
ATARI ST!
bimota
CELAL
THALION

GOT A KEYBOARD? THEN LET YOUR AMIGA PLAY IT!

It seems there are loads of people out there who have an electronic musical instrument who still haven't yet caught up with the fact that they can hook it up to their Amiga and open up all kinds of new and exciting possibilities. Synthesisers and the like that use MIDI (Musical Instrument Digital Interface, a common language that enables instruments and computers to talk) can be attached to the Amiga via a MIDI interface – which then means you can write, play and record tunes on your Amiga with a sequencer program. It also comes with two free MIDI cables!

MIDIMASTER BY DATEL ELECTRONICS — £19.99

❶ & ❷ SMOOTH CONTROL AND AN EASY LIFE...

Nothing makes more of a difference to your Amiga than a better mouse. Whether it's simply drawing a clean line in *Deluxe Paint*, moving a file around the Workbench without accidentally dropping it or controlling a motorbike in a game without it getting completely loose, you need accuracy, precision and reliability that sometimes only a quality mouse can provide. Which is exactly why you should get rid of your original Commodore model (Commodore have got rid of them, both the new A4000 and A1200 models come with a new one) and opt for one of these relatively cheap and high-quality replacements. (Also see our mouse round-up in Issue 38)

GOLDEN IMAGE MOUSE — £14.99

MEGAMOUSE BY ALFADATA — £12.95

❸ DON'T GIVE THE KIDS A PET FOR XMAS, GIVE THEM A MOUSE

Frippery and luxury though it may be, this has to be the most appealing mouse design we've ever seen. It's aimed at encouraging kids to get started with the computer, it's overpriced, but it works pretty well and, let's face it, it's more fun than any other mouse you'll ever see!

KIDZ MOUSE BY LOGITECH — £32

❹ LEARN TO PROGRAM ON THE AMIGA – IT'S EASY!

Once upon a time, home computers would come with a Basic programming language included, and people would have hours and hours of fun learning how to create their own simple programs. There's still no challenge like it – but the best way to do it has now changed. This package includes a cheerful and friendly step-by-step guidebook which is especially designed to be used by beginners, and the powerful but simple programming language will help you get some really great results!

EASY AMOS BY EUROPRESS SOFTWARE — £33.99

JOIN THE CLUB: KEEP UP TO DATE, EVERY MONTH

A subscription to *Amiga Format* must be the best gift that you could possibly give to an Amiga owner: or treat yourself to! As well as getting the world's best-selling Amiga magazine delivered to your door every month, it also means you're a part of the world's best club for Amiga owners! All subscribers receive a free newsletter sheet every month, with glimpses behind the scenes at the monthly goings-on of *Amiga Format*. With New Year approaching, make sure 1993 is a good one: make sure of getting your favourite magazine every month! (See Page 263 for details)

AMIGA FORMAT SUBSCRIPTION — £44.95

❺ DON'T FORGET THE MEMORY!

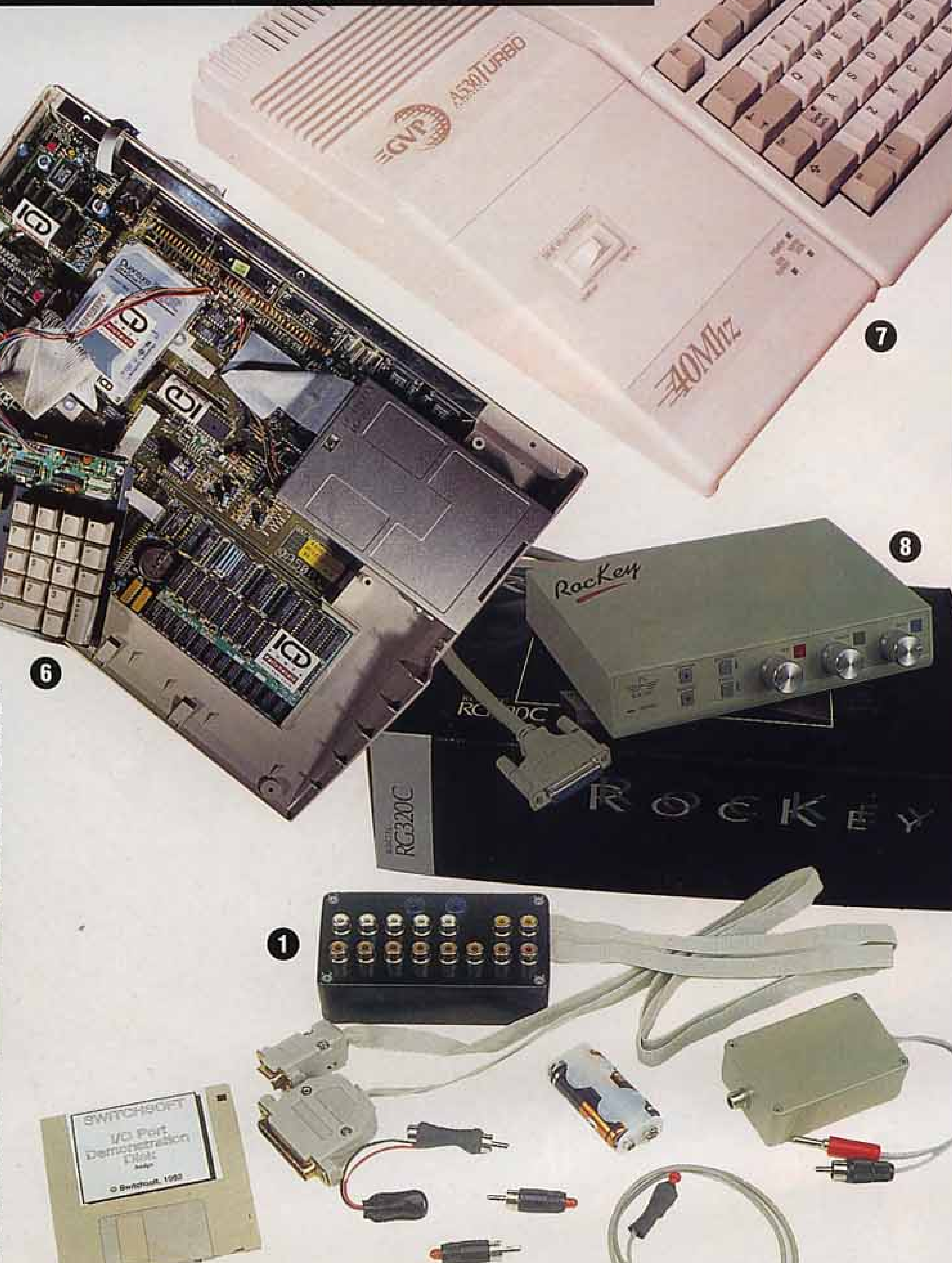
There can be few more useful extras or more welcome gifts than a chunk of extra memory for your Amiga. It enables you to run more programs and do lots more ambitious things, ie DTP, animation. All the basic Amigas can be expanded by simply slotting a RAM expansion into the 'trapdoor' under the machine, so it's a simple, convenient and tidy way to get more power!

RAM EXP A500 BY AF MAIL ORDER — £25.99

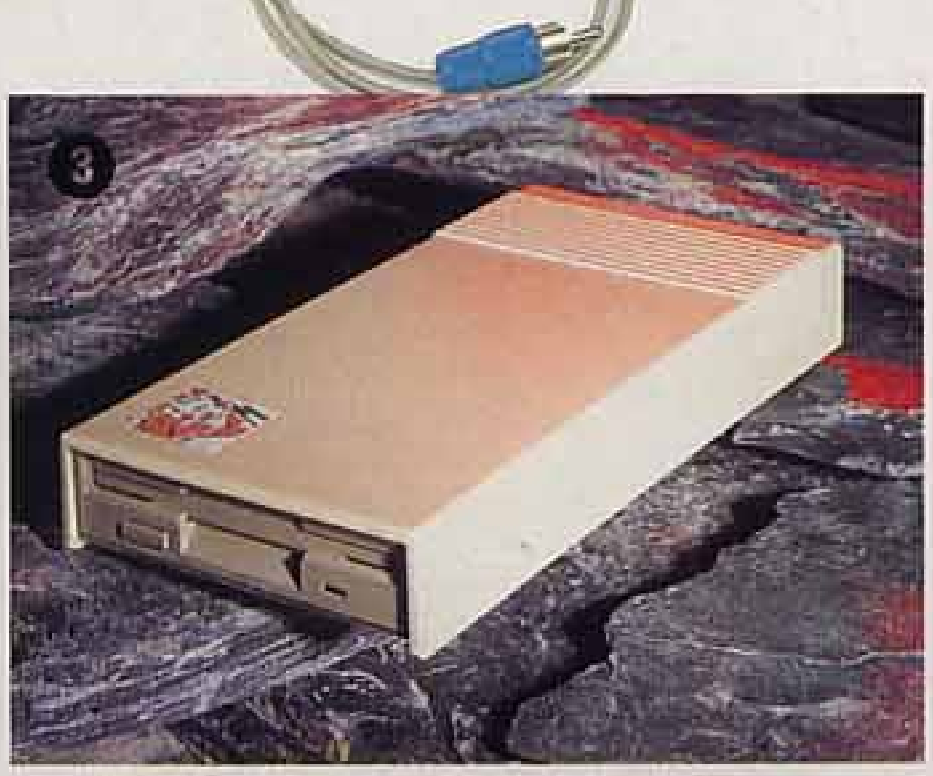
RAM EXP A500 PLUS BY PHOENIX — £34.99

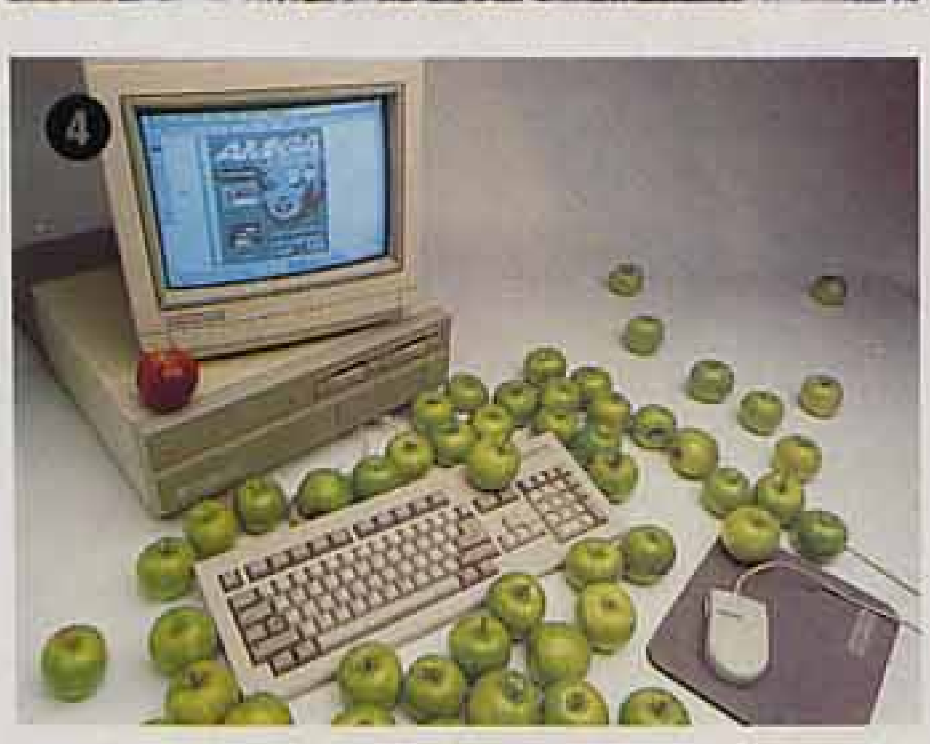
RAM EXP A600 BY PHOENIX — £44.99

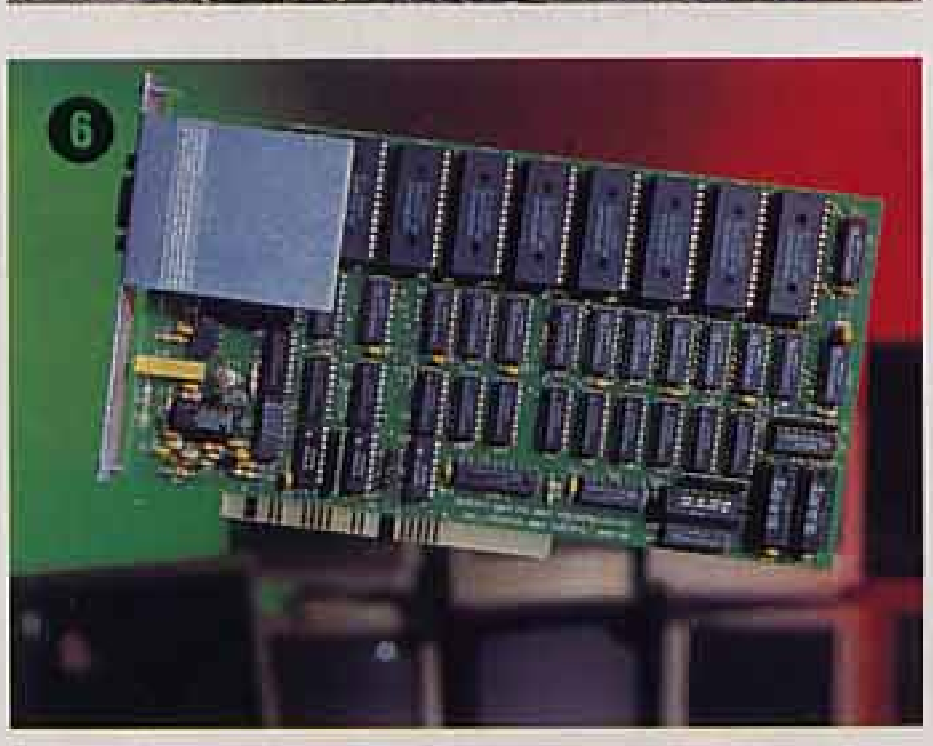












❶ FROM SCIENTIFIC EXPERIMENTS TO CONTROLLING ROBOTS!

These interface kits open up an enormous range of possibilities. Clever little boxes that attach to the parallel port of your Amiga, they mean you can control all manner of electrical gadgetry. You could build your own robots and write programs to control them, conduct scientific experiments with temperature sensors and photo-electric cells and even make your Amiga into a burglar alarm! Ideal for educational use or for young people with an interest in electronics!

SWITCHSOFT INPUT/OUTPUT PORT	£26.95
SENSOR AND CONTROL EXPERIMENTS KIT	£24.95

❷ & ❸ MATCH YOUR AMBITION WITH DRIVE!

If you don't have a second disk drive, you're making life very difficult for yourself! A second drive makes games that come on more than one floppy an awful lot more enjoyable, and it also makes it child's play to copy files from one disk to another, or save files while running a program. Our recommended drives are the fastest and the quietest around: the slimline, solidly-built, super-speedy RocLite and the Power 880B with its built-in extras. Both are available in black for CDTV owners.

ROCLITE BY ROCTEC/HB MARKETING, BLACK	£65
ROCLITE BY ROCTEC/HB MARKETING, IVORY	£65
POWER 880B, BLACK BY POWER COMPUTING	£65
POWER 880B, IVORY BY POWER COMPUTING	£65

❹ GET A MACINTOSH COMPUTER FOR A FRACTION OF THE PRICE!

If you have an A1500, 2000 or 3000 and you're interested in running the best graphics and DTP software outside the Amiga, what you need is this Macintosh emulator. Turning in a perfect imitation of Apple's famous designer computer at a fraction of the price of the real thing, this is the ultimate in computer one-upmanship! It comes on a card, can read Mac disks and use a partition of your hard drive for storing Mac data and will run all the Mac software we could throw at it.

AMAX II PLUS BY READYSOFT/ENT INTERNATIONAL	£324.99

❺ & ❻ ASPIRIN FOR THE FLICKER HEADACHE!

If you're serious about your graphics, video or DTP work, you'll want to work in the highest resolution possible – and that means interlace. Trouble is, can you bear to work with that flickery screen? Now there's a cure for tired eyes and headaches: get yourself a de-interlacer for rock-steady display. For owners of larger Amigas, the Microway Flicker Fixer is a bargain: it's halved in price of late. And now A500 owners can de-interlace too, with ICD's tiny Flicker Free Video 2. (Multisync or VGA monitor is also required.)

FLICKER FREE VIDEO 2 BY ICD/POWER COMPUTING	£199
FLICKER FIXER CARD BY MICROWAY/HB MARKETING	£250

❼ THE MOST STUNNING A500 PERIPHERAL IN HISTORY!

What a combination! Take the best hard drive there is for an A500, with a capacity of up to 120Mb, then take into account the fact that it will take up to 8Mb of RAM. Add in a 'mini-slot' that allows it to add extra expansions such as a PC emulator, then slip the whole thing into a smart, compact case that slots neatly on the side of an A500. What have you got? An HD8+ hard drive, so far. But the killer blow is the addition of an amazingly swift 68030 accelerated processor that turns your A500 into the best all-round machine you can get!

A530 HARD DRIVE GVP/SILICA	£799

❽ VIDEO EFFECTS LIKE THE PROFESSIONALS USE!

This unique gadget for the Amiga works like a genlock, but the other way round – it allows you to put Amiga graphics into areas of flat colour (or similar brightness) on a video picture. It's like the 'chroma keying' effect used in TV and films, like when Superman soars above buildings. Quite remarkable, loads of fun and very, very clever!

ROCKEY BY ROCTEC/HB MARKETING	£299









CARTOON LAND GONE BAD!

Whilst publishing his underground comic Jack Deebs has unwittingly created a parallel universe inhabited by cartoon characters known as ***DOODLES****. You are transported into* ***COOL WORLD*** *and seduced, through engaging messages, by the Doodle vamp...* ***HOLLI****. Visual jokes and gags punctuate your adventure as you hop to and fro between reality and* ***COOL WORLD.*** *But Holli's dream is to shed her Doodle indentity... to become a real woman - with a real interest in Jack!*

A DREAM THAT COULD DESTROY BOTH WORLDS!



OCEAN SOFTWARE LIMITED
2 CASTLE STREET . CASTLEFIELD
MANCHESTER . M3 4LZ
TELEPHONE: 061 832 6633
FAX: 061 834 0650


1
9
SCALA
SCALA
SCALA
8
Commodore
A690
AMIGA
12
LEFT
MIC
MIC I/P
LINE
PRINTER
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GSOFT AUDIO IMAGER
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MAX
POWER
RIGHT
MIC
LINE
11
CITIZEN
2
MIRACLE
PIANO TEACHING SYSTEM
3
PHILIPS
6
Dr. T's
MUSIC SOFTWARE
TIGER plus Quick Score
V3.5
NEW
LOCK
KCS V3.5 with Level II



❶ TURN YOUR AMIGA INTO A REAL COMPUTER!

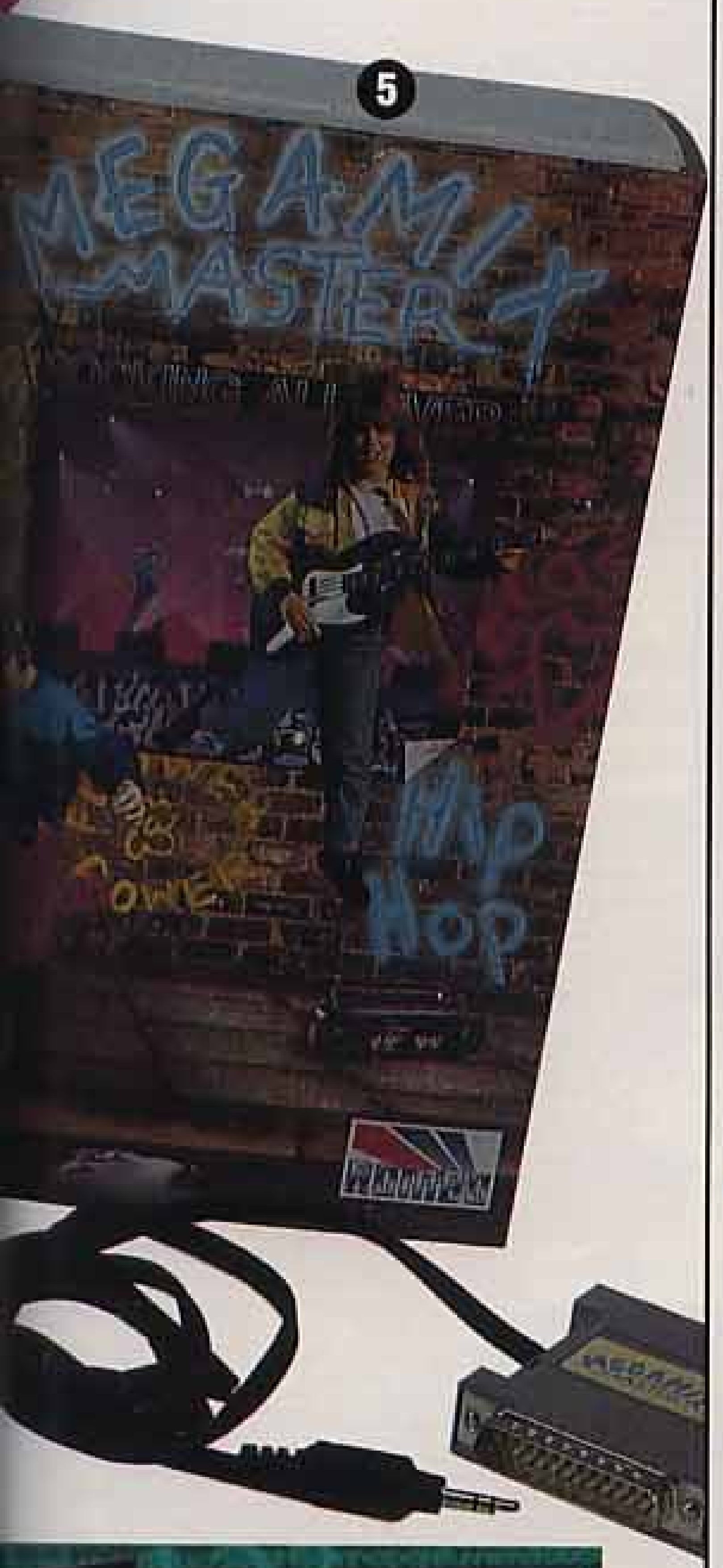
If you've never used your Amiga with a hard drive, you don't know what you're missing! Seriously, only 20 per cent of our readers have hard drives and we'd encourage everyone to get one. It's amazing what a difference it makes, even if you play games (*Monkey Island* is much better from a hard drive than it is from ten floppies!) but especially if you're into any kind of serious Amiga use. Our recommended hard drive is the fastest, it's very reliable, it comes with memory expansion capacity of up to 8Mb and a 'mini-slot' for other expansions – and it's just down in price.

GVP IMPACT SERIES 2 HD8+ HARD DRIVE 52MB	£349
GVP IMPACT SERIES 2 HD8+ HARD DRIVE 52MB + 2MB RAM	£408
GVP IMPACT SERIES 2 HD8+ HARD DRIVE 120MB	£449

DON'T MISS OUT ON MINIATURISATION

Just because you have an Amiga 500 doesn't mean you have to lose out on one of the great bonuses for A600 owners; the ability to fit a tiny, 2.5-inch IDE hard drive inside your Amiga. The AdIDE adaptor from the masters of miniaturisation, ICD, sets up all you need to carry massive amounts of data around hidden conveniently inside your machine, and ICD also supply appropriate drives in a range of capacities. Believe us, a hard drive makes an enormous difference – and this has to be the best way to fit one.

ADIDE BY ICD — FROM £199



❷ YOUR AMIGA CAN TEACH YOU TO PLAY PIANO!

Do you ever wish that you'd learnt to play piano when you were younger? Would you like to be that cool dude behind racks of synths, but you don't know where to start? Well here's the ideal thing! The Miracle includes a full MIDI keyboard that can sound like over 100 instruments: but better still, you can hook it up to your Amiga and the software will teach you how to play, monitoring your progress and giving you advice as you go along! Don't be shy – give it a go. (Or you could have a go at winning one on Page 74)

MIRACLE BY MINDSCAPE/SOFTWARE TOOLWORKS — £299

❸ 20/20 VISION AND A BRIGHTER WORLD

If you're still using your Amiga through the telly, you're only getting half the picture. A proper monitor makes pictures sharper and brighter because it's designed for the purpose. This one can also provide stereo sound – plus it's officially approved as the best monitor for all Amiga resolutions that don't need an expensive multisync, according to our own tests. And don't miss out on your free copy of the excellent *Lotus 2* driving game.

CM8833 MONITOR BY PHILIPS — £258



❺ FUN AND GAMES WITH YOUR OWN HIT SOUNDS

Sampling is the technique that has shaped the pop music of the Nineties, but even if you don't like modern dance music, it can still be really great fun to sample your own sounds and create your own tunes. It's so easy – just plug a hi-fi, microphone or video into the sampler hardware and bang the button, then sequence the sounds you've saved into complete songs using the colourful, user-friendly software supplied. Get down.

MEGAMIX MASTER BY ROMBO — £39.95

❻ FOR THE PROFESSIONAL HOME STUDIO...

If you take your music seriously, there's only one sequencing program you should be using. Packed with features that make it ideal for the discerning professional, this is nevertheless the program of choice for a good many amateur and semi-professional musicians. If you've spent more than £500 on a keyboard, you really ought to be using this. It's the stuff of which hit albums are made...

KCS LEVEL 3.5 BY DR T'S/ZONE — £279

❽ PIONEER THE FUTURE OF HOME COMPUTING!

There's absolutely no doubt about it, the big thing that will happen in 1993 is that the vast majority of entertainment software will switch over to being compact-disc based. As you see more, bigger and even better games being released on to CD format, do you want to be left behind? Of course you don't. So get in there first, and explore an amazing world where hundreds of PD programs can be bought for only a few pounds and amazing sound and graphics are the norm. Above all, know that you won't be left behind when the glorious day comes!

A570 CD-ROM DRIVE BY COMMODORE — £349.99

TAKE CONTROL AT THE HEART OF YOUR AMIGA

Mystified by the complications of the CLI? Are you totally at a loss when it comes to duplicating an Amiga disk? Simply irritated by the idiosyncrasies of the Amiga's user interface? Annoyed by the fact that you can't click on a file to read, display or hear it? For anyone who's put off by the fearsome technical knowledge that is normally required to use the Amiga to its full, or who is aware of the shortcomings of it and wants to work in a much more professional environment, then this is the utility for you. One simple screen is all that you need to have full control over all your files and floppy disks. It's just so easy!

DIRECTORY OPUS BY INOVATRONICS — £39.95

❾ VISUAL SOPHISTICATION TO MAKE THE BBC LOOK AMATEUR!

Whether you want to add professional-looking and classy title screens to your home videos, or create whole business presentations to get your point over, this is the ideal way to do it. *Scala* makes it easy, not just because it has a beautifully designed interface that makes using it a pleasure, but also because it comes with enormous quantities of ready-prepared typefaces and stunning graphics that give you the class of a top-notch graphics designer, even if you're a complete novice.

SCALA BY SCALA/SILICA — £99.95

❿ PRINTING HAS NEVER BEEN SO SMOOTH, QUIET AND CHEAP!

Printers can be so awkward. They can be noisy and clattery; they can cost more than the Amiga itself; and they can produce results that make your beautifully designed document look like a photocopy of a digitised version of what you started off with. But not any more! Canon's amazing bubble-jet technique, which squirts the ink in tiny bursts on to the page, makes this printer incredibly quiet and astonishingly cheap – yet it gives letter-quality results nearly as good as a laser printer.

BJ-20 BUBBLEJET BY CANON — £299

⓫ COLOUR PRINTING FOR THE MASSES

This is a printer that tops all the others in its class. Coming with an automatic colour option, this has to be the cheapest way of getting decent versions of your *DPaint* pics in all their colourful glory. A 24-pin dot-matrix gives it letter quality when you're printing text, while clear controls make it easy to use and it's also quiet. This year's model, it even comes with a special print utility Citizen have developed to ensure Amiga owners get top-class results.

240C 24-PIN DOT-MATRIX BY CITIZEN — £429.83

⓬ SAMPLE WITH THE PROFESSIONALS!

This is one of the finest software and hardware combinations available on the Amiga – it's the Rolls Royce of Amiga samplers! Superbly engineered hardware produces excellent, clean, clear samples and the amazing *AudioMaster IV* software is the perfect thing with which to edit and adjust them, even enabling you to time-stretch samples without altering their pitch.

AUDIO ENGINEER PLUS BY RAMSCAN/HB MARKETING — £204

Zyconix. It'll have your brain raving all night.

You're sweating, your brain's going at 100 miles an hour and it's five in the morning.

You're not raving, you're playing Zyconix.™

It's the mind-blowing computer game brought to you from Accolade. Like a shower of space debris, blocks fall out of the cosmos. Your mission – make sure they don't fill up your screen. You can grab blocks, move blocks and bounce blocks to form lines which then disappear.

But beware of the V.D.U. nasties, they'll stop at nothing to stop you.



Exploding mines, balls that won't break and deadly spikes. They'll zap your lines into oblivion and have you ducking and jiving all the way to the asylum.

But it needn't be a total mind warp. To help you through the 4 difficulty levels and 9 speeds, there's some wicked tunes to keep you going – everything from Rave to Soul.

One visit to your software shop and you'll be addicted.

ACCOLADE™

The best in entertainment software.™

❶ ILLUSTRATIONS UNDER YOUR CONTROL

If you want black-and-white illustrations for DTP or as a basis for your artwork, there is currently no better way of getting them. This hand scanner can scan in 16 shades of grey as well as simple mono for line drawings and delivers the very best quality at the lowest price. If you're producing illustrated documents, get it!

POWER HAND SCANNER BY POWER COMPUTING — £99

GRAB LIKE A MANIAC

For the ultimate in colour digitising, you want a real specialist device – and this is the best there is. It comes on a hard card for A1500 and above and it gives the most excellent results, in full colour and in real time. Save frames from video or from a camera in a video composite format, then convert them to whatever Amiga graphics format you require: this is the quality way to artistic use of video images.

V-LAB DIGITISER BY AMIGA CENTRE SCOTLAND — £299

❷ FUN FOR BEGINNERS WITH VIDEO DIGITISING

Not many of us have a video camera, so it might seem that video digitising is a closed area. But not so! This amazing low-cost digitiser works in real time (less than 1/25th of a second) so it can grab images direct from your television or video recorder – and considering it's so cheap, it gives precise, clean images which are unrivalled by more expensive digitisers. It only works in black-and-white, but the noise-free results make it easy to load frames into *DPaint* and colour them. And it's ideal for the A500 or A600.

VIDEO DIGITIZER II BY DATEL — £89.99

❸ BECOME A NEWSPAPER OR MAGAZINE DESIGNER

The art of DTP is what makes magazines like this one possible, and the Amiga is capable of competing with the big boys when it comes to DTP. Best of the powerful, professional DTP programs, this will require lots of RAM and a good, big hard drive, but it's the first Amiga DTP package that we can honestly say gives absolutely professional features and results. So if you're going to do it, do it right!

PAGESTREAM 2.2 BY SOFT-LOGIK/SILICA — £199.95

❹ GET INTO VIDEO TITLING AND SPECIAL EFFECTS

A small, inexpensive piece of hardware called a genlock can open up whole new areas of creativity for you. It means you can mix video images straight off tape into areas of a flat colour in Amiga graphics or animations, thereby making it possible for you to put titles and special effects on to your own videos. It's surprisingly easy, and an awful lot of fun, and this is one of the most effective budget genlocks you could possibly choose.

ROCGEN BY ROCTEC/HB MARKETING — £99.95

❺ PAINT AND ANIMATE IN UP TO 4,000 COLOURS

Deluxe Paint is the ultimate Amiga program, and yet we almost take it for granted. It's been around as long as the Amiga has and it's one of the simplest, most accessible computer paint programs ever seen anywhere. The latest version works in HAM mode, enabling you to use all 4,096 colours of the Amiga's palette. It's fun, it's easy, it's now even more powerful, and yet if you have an earlier version it's cheap to upgrade – so why not go for it?

DPAINT IV BY ELECTRONIC ARTS — £89.99

❻ NOW THAT'S WHAT I CALL COMPUTER GRAPHICS!

You'll need extra RAM and preferably an accelerator, but with this extra bit of hardware you can get involved in the most advanced area of computer graphics – 3D modelling and animation. Create objects as 'wire frames', set what colours and textures you want all the surfaces to have, then leave the computer to calculate your astonishing, surreal or life-like images – it's the sharp end of computer graphics!

IMAGINE 2 BY IMPULSE — £299.95





MAKE LIKE A GOD – CREATE YOUR OWN LANDSCAPES!

Nothing has had quite as much of an impact on the imagination of Amiga users as the technique of fractal modelling (especially since we gave away the first version of Vista on the Coverdisk of Issue 30 of *Amiga Format*). With its roots in chaos theory, this idea uses complex mathematics to create realistically irregular and jagged images and 'project' them into three dimensions, making landscapes that look like they are carved from the living rock. This latest version of the original fractal landscape modeller produces fractal trees and skies and outputs full 24-bit images – it's astounding!

VISTAPRO2 BY VR LABS/HB MARKETING — £69.99

❶ THE ULTIMATE IN WORD PROCESSING POWER

A word processor is a word processor, true enough: but if you've got 1.5Mb of RAM to pay with, you can have one that's a little bit more besides! This British-made and well-supported program also has lay-out features, including the capacity to import graphics, use colour and put text in columns, which make it half-way to a DTP package: it also has what is probably the best interface seen on the Amiga, making it easy to use, and now comes with Agfa Compugraphic scalable fonts for real flexibility and a step in the direction of true 'what you see is what you get' word processing. Get on the 'write' track (and read the review on Page 184).

WORDWORTH 2 BY DIGITA — £129.99

❷ RAW POWER WITH WORDS

The layout features offered by many 'word publishers' can get in the way of them doing their original purpose: making it quicker and easier to write. Not so here. This word processor is the professional's choice: incredibly fast and immensely powerful. If you don't want to pretty up your documents with pictures, if what you want is words, words and more words, this immensely respected, no-nonsense program is just the job. It also has a fully-compatible database sister program.

PROTEXT 5.5 BY ARNOR — £80

❸ GO ON – MEDDLE WITH THE INSIDE OF YOUR AMIGA!

This is more or less the Amiga equivalent of a robot surgeon – it enables you to explore what's going on inside your Amiga without getting your hands dirty. This cartridge plugs in on the edge connector of the A500 models and then lets you freeze programs and explore how the code is actually working inside the Amiga. You can slow down games or 'poke' them to give yourself an advantage, and you can save out screens and sampled sounds for your own use (provided you don't distribute them further and breach copyright). It also provides a number of disk utilities, and makes an ideal way of beginning to understand your Amiga.

ACTION REPLAY III BY DATEL — £80

❹ MILLIONS OF EXTRA COLOURS AT YOUR FINGERTIPS!

All the rage nowadays in the graphics world is 'true colour', which can add millions of extra shades of colour to your paint palette. Until recently, only A1500 and above owners with over a thousand pounds to spend could get a true colour board, but now you can plug this box into your A500 to get 'pseudo true colour' and paint in hundreds or thousands more colours. The package includes a top-class paint program and a video digitiser too, which make it amazing value for money!

DCTV BY DIGITAL CREATIONS/SILICA — £499

❺ MORE POWER TO YOUR A500

Want to speed up your A500's central processor without spending hundreds on a 68030 processor card? This little board will slot on easily and give an increase in speed to 14MHz, the same as the 68020-based A1200, which is particularly useful if you like 3D games such as flight sims or you want to dabble in DTP or 3D graphics. It won't speed up everything, but it also allows up to 8Mb of memory expansion and it will make a difference – it could be the ideal next step.

BLIZZARD TURBO BOARD BY POWER COMPUTING — £169

PHOENIX

Sales 0532-311932

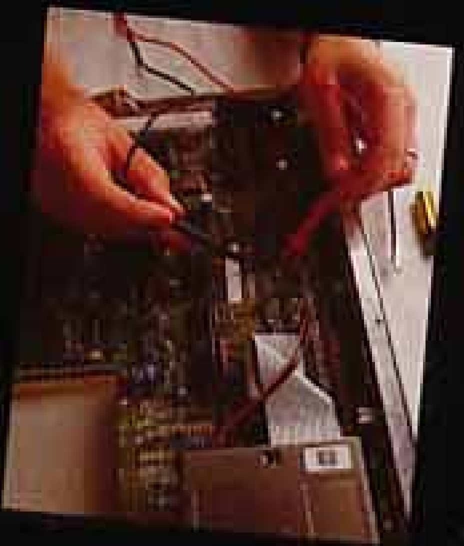
Our friendly, highly trained sales team will ensure that your order is dealt with efficiently and with the minimum of fuss.



At the time of placing your order we will advise you of anticipated delivery time and answer any other queries you may have regarding your purchase. All major credit cards accepted.

Technical Support

The Phoenix product helpline ensures that all our customers benefit from the highest level of after sales technical support.



We also offer advice to help you in choosing exactly the right product for your requirements thus eliminating the possibility of an unwanted or unnecessary purchase.

Despatch 0532-310796

Once you have made the decision to purchase from Phoenix your order will be dispatched promptly and without fuss.



Using one of the countries leading courier services ensures that your goods arrive on time, intact and in the same condition they left our stock.

A Warm Welcome to Christmas '92

Welcome to our three page Christmas-Special which has all the products you need to make this a "Happy Amiga Christmas!"

Page one is devoted to 'Options', packs which are designed to take the headache out of your choice this Christmas. All year we have been gathering regular feedback from our customers on what they think are the essential items to be found in a pack. From this information we have assembled what we and the Amiga buying public believe to be the ultimate in packs at unquestionably the best prices.

Make 'Options' your only option this Christmas!

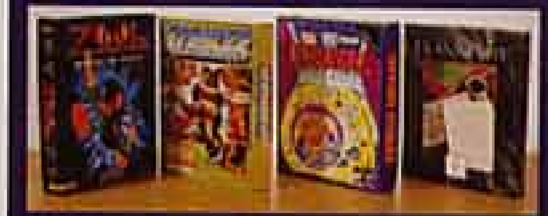


James Millard
Managing Director

OPTION 1 — ARCADE ACTION PACK

This Pack, built around the A600 1Mb machine, will provide you with everything you need to create your own in house' all-action arcade environment. Exploit the Amiga as the ultimate games machine!!!





NORMAL R.R.P. inc VAT............ £604.85

PHOENIX OPTION 1 £539.99

WHAT YOU GET!
- A600 1Mb
- Phillips Monitor 8833 MkII
- 10 Capacity Disk Box
- 10 Phoenix Bulk Disks with Labels
- Two Joysticks (fully microswitched)
- Mouse-Joystick Switch
- Phoenix Stereo Hi-Fi Sound Speakers
- ZOOL Software Pack (10 High Quality Games inc. ZOOL, striker)
- 8mm Mouse Mat

OPTION 2 — HOME OFFICE

This pack is based round the A600 HD giving you all the advantages of an electronic office environ-ment in the comfort of your own home. Alongside the A600 HD, Phoenix also provide you with a top selling 9 PIN dot matrix colour printer, a highly rated software package - rated 84% in Amiga Format - our own Phoenix Deluxe drive, and a full range of top quality accessories, making day to day household management easy!!



NORMAL R.R.P. inc VAT............ £986.85

PHOENIX OPTION 2 £939.99

WHAT YOU GET!
- A600 1Mb (20Mb HD)
- Phillips Monitor 8833 MkII
- Star LC100 9 PIN Colour Printer
- 3.5" External Drive
- PA 601 RAM Expansion
- Europress "Mini Office"
- 10 TDK 3.5" Disks
- A4 Copy Holder
- Anti-Glare screen
- 500 sheets of Paper
- 8m Mouse Mat

OPTION 3 — FAMILY PACK

Based on Commodores Epic•Language pack, Option 3 gives the whole family maximum use of the Amiga.



Phoenix have added to the top quality software titles already in the pack with a choice of fun school titles for the children and Monkey Island 2, (Amiga Format Gold winner). They complete what is an unbeatable software based pack. Whether it's word processing, learning, home accounts or just good old game playing, the FAMILY PACK is all you need.

NORMAL R.R.P. inc VAT............ £1006.86

PHOENIX OPTION 3 £929.99

WHAT YOU GET!
- A600 1Mb Epic/Language pack (20Mb Hard Drive)
- Phillips Monitor 8833 MkII
- Star LC100 9 PIN Colour Printer
- PA 601 1 Mb RAM Expansion
- Fun School 3+4 Monkey Island 2
- 50 Capacity Disk Box
- 10 Phoenix Bulk Disks with Labels
- Joystick (fully microswitched)
- 8mm Mouse Mat

OPTION 4 — CHRISTMAS CRACKER

"Unbelievable", "Crazy", are just some of the quotes from the industry regarding the demise of the A500+.



Destined never to be sold again the A500+ was superceded by the A600 range. However, Phoenix have secured one of the largest stocks in the UK of the Cartoon Classics Pack and offer you the very last chance to purchase this legendary machine!!

PHOENIX OPTION 4 £279.99

A 500+ Cartoon Classics 2Mb..................... £314.99

WHAT YOU GET!
- A500+
- 1Mb of RAM expandable to 10Mb
- Workbench 2.04
- Real-Time Battery Backed Clock
- Full Comprehensive Manual Set
- Mouse
- TV Modulator
- External PSU
- Lemmings
- Captain Planet
- The Simpsons
- Deluxe Paint III

WHY OPTIONS

- **ALL PRODUCTS** are full UK spec.
- **ALL PACKS** supplied with full connecting cables for immediate operation.
- **FREE** 'Getting Started' technical guide.
- **FREE RETURN TO PHOENIX** pick-up on all faulty hardware within 30 days of purchase.
- **FREE UK DELIVERY**- on all 'Options' packs
- **FREE DUST COVERS** for Computer, printer and monitor when purchasing an options pack.
- **EXCLUSIVE** technical helpline number.
- **THE KNOWLEDGE** that you are purchasing from one of the premier mail order companies in Europe.

If you wish to upgrade any major item of hardware in the 'Option Pack', simply tell us at the time of ordering and we will just charge you the difference in price between the two products. Easy!

SPECIAL CHRISTMAS OPENING TIMES

Mon-Sat 9.00-7.30

PHOENIX

A 1200 AMIGA 1200 NEW

Probably the home computer of the decade, the A1200 is the latest addition to the Amiga family. Incorporating a new internal engine and many more exciting and powerful features, this machine truly takes the Amiga family into the next generation!!!!!!!!!

FEATURES INCLUDE:

68020 Processor Running at 14 Mhz • 2Mb Chip RAM (expandable to 10 Mb using 4Mb fast memory PC MCIA cards and 4 Mb 32-bit RAM in CPU slot) • New double "AA" graphics chip set • 256 colours on screen from a 16.8 million colour palette • Full Amiga Key board (with Alpha numeric key pad) • CPU local BUS slot, (card edge).

Phoenix Price Only £379.99

A 600 NEW PACKS

'THE WILD, THE WEIRD & THE WICKED'

1 Mb A 600 as standard and includes the excellent value Software titles: Deluxe Paint III • Formula One Grand Prix • Putty • Pushover

Phoenix Price Only......... £339.99!

A 600 2Mb *(incl. above software)*.........£379.99

'EPIC•LANGUAGE PACK'

1 Mb A 600 as standard and includes **20MB HARD DRIVE** the excellent value Software titles: Deluxe Paint III • Trivial Pursuit • Epic • Myth • Rome

Phoenix Price Only......... £484.99!

A 600 2Mb+20 Mb Hard Drive £524.99

(both include the above detailed software)



The stand-alone A 600 is compact, semi portable, fully featured and can be purchased in the following configurations:

A 600.......................................£274.99
A 600 HD..... NOW ONLY £429.99
A 600 2Mb £314.99
A 600 HD 2Mb £469.99

RAM EXPANSION A 600

Phoenix PA 601-populated-1Mb.....£44.99
Phoenix PA 601-unpopulated-0Mb...£24.99
Phoenix A 600 ROM Sharer...........£29.99
Keyboard switchable!

A 4000 AMIGA 4000

Features Include: 68040 32 Bit Processor running at 25 MHz (upgradable) • New Double AA chipset with 16.8 million colours • high density 1.44 Mb floppy • 120 Nb IDE hard drive • New Workbench 3

AMIGA 4000.................. £2,229.00
A 4000 with 40/240/425 Mb Hard Drive.......£POA

1500 AMIGA 1500

2.04 Workbench Includes: Deluxe Paint 3, Platinum Works, Home Accounts, Toki, Puzznic, x Elf, Amiga Format Book and Joystick

AMIGA 1500............... ONLY £539.99

A 500 EMULATORS

GVP PC-286 16MHz.......................£239.99
KCS Powerboard (with DOS 4.01)......£199.99
KCS Powerboard £184.99
KCS adaptor for 1500/2000... ONLY £59.99
Vortex A Tonce Plus 286 (16MHz)...£214.99

32 BIT ACCELERATORS NEW

The incredible speed of 32-Bit technology at a price you can afford only from S.S.L. Ray tracing an image that takes 24-hrs on a standard Amiga takes just **1 hr. 36 mins.** with an A5000!! **FREE** maths co-pro included with both A/B5000 accelerator cards.

A5000 + 1MB 16.67 Mhz £249.99
A5000 + 2MB 16.67 Mhz £289.99
A5000 + 3MB 16.67 Mhz £319.99
A5000 + 4MB 16.67 Mhz £349.99
B5000 + 1MB 25.00 Mhz £499.99
B5000 + 2MB 25.00 Mhz £669.99
B5000 + 3MB 25.00 Mhz £829.99
B5000 + 4MB 25.00 Mhz £979.99

A 500 HARD DRIVES

GVP IMPACT SERIES II Hard Drives, the fastest Hard Drive/Controller for the Amiga. Features Game Switch, external SCSI port, FAAASTROM SCSI Driver, GVP's custom VLSI chip and internal RAM expansion up to 8 meg! Units use high specification fast-access QUANTUM Hard Drives coming with **2 yr. guarantee.**

A500-HD8+ 42 Mb .... NEW! £289.99
A500-HD8+ 80 Mb .... NEW! £379.99
A500-HD8+ 120 Mb £424.99
A500-HD8+ 240 Mb £689.99

DRIVES ROCTEC

SALE OF THE CENTURY!!

Phoenix in association with Roctec and Conner, continue to achieve massive sales on this high specification, quality product. Due to the buying power of Phoenix we are able to maintain these incredible prices-prices that have left the competition **GREEN** with envy-and the Amiga buying public licking their lips. **Stocks will only last until the end of November.**

ROCTEC 40 MB......................£259.99
ROCTEC 85 MB......................£299.99
ROCTEC 120 MB....................£364.99

Featuring Connor drives-very fast access times-(19ms or better) • expand up to 8 Mb using 1 Mb Simms only • 1 year guarantee • slimline design ideally colour matched to the A500 • Own power supply.

ROCTEC (controller Only)...............£164.99

Same specification as the above but without the hard drive fitted so you can fit your own. Please specify IDE or SCSI.

EXTRA MEMORY-Only £25.99 per Mb.

HARD DRIVES 1500/2000

Series II Hard Disk Controller/RAM card....£114.99
Series II 42 Mb Hard Disk and RAM card...£269.99
Series II 80 Mb Hard Disk and RAM card...£339.99
Series II 120 Mb Hard Disk and RAM card...£399.99
Series II 240 Mb Hard Disk and RAM card........£639.99

EXTRA MEMORY-Only £25.99 per Mb.

A 500 ACCELERATORS

GVP Combination Accelerators & Hard Drives-The ultimate expansion product for the Amiga 500!

A530 Combi 40MHz + 52Mb Hard Drive.......£659.99
A530 Combi 40MHz + 120Mb Hard Drive....£757.99
A530 Combi 40MHz + 240Mb Hard Drive.....£979.99
A530 68882 Co-Processor..............................£204.99

ACCELERATORS 1500/2000 FAST

GVP G-Force 030-25MHz + 1Mb................£545.99
GVP G-Force 030-40MHz + 4Mb..................£784.99
GVP G-Force 030-50MHz + 4Mb................£1099.99

ACCELERATOR RAM Modules FAST

1Mb Simm-32 Bit 60 Nanoseconds.........£65.99
4Mb Simm-32 Bit 60 Nanoseconds.....£182.99

EMULATORS 1500/2000-3000/3000T PC

Vortex 'GOLDEN GATE' NEW! £419.99

This emulator is the ultimate bridge between PC/AT platforms and the Amiga. If you think this is for you, cross to page three for specification details in this months 'Trail Blazers' section!

PRINTERS IMAGE

STAR

LC-100 Colour................... NEW! £159.99
9 PIN colour printer with paper parking, eight fonts and electronic DIP switches.

LC24-100 .... NEW! £189.99
24 PIN with compressed data mode, 16 K buffer and 10 letter quality fonts,(with Star printer driver only).

LC-20..£129.99
LC-200 Colour....................................£195.99
LC24-20...£199.99
LC24-200 Mono £219.99
LC24-200 Colour.................................£268.99
XB24-200 Colour.................................£379.99
SJ48 Bubblejet .... NOW ONLY £219.99
Star printers come with one year warranty.

CITIZEN

Swift 240 Colour............... NEW! £279.99
Swift 240 Mono................. NEW! £259.99
Swift 200 Colour............... NEW! £219.99
Swift 200 Mono................. NEW! £199.99
Swift 9 Colour........ SPECIAL OFFER £179.99
Citizen printers come with 2 year warranty.

HEWLETT PACKARD

Deskjet-550C *(colour printer)*.... NEW! £559.99
300 dpi laser quality output • sharp blacks and 16 million colours available • six built in type faces-4 scalable • improved media handling • several paper sizes • **FOUR TIMES FASTER** than previous H.P. Deskjet range.

Deskjet 500............. SPECIAL OFFER £329.99
Deskjet-500 Colour.......................£449.99
HP printers come with 3 year warranty.
HP black ink cartridge £24.99
HP colour ink cartridge £29.99

AUTO SHEET FEEDERS

STAR LC20........................ NOW ONLY £57.99
STAR LC200.. £59.99
STAR LC24-200................................... £62.99
STAR LC24-20..................................... £62.99
STAR SJ48... £49.99

JET BUBBLE JET

CANON BJ 10eX.............. NEW! £224.99
Upgraded version of BJ10e, the worlds biggest selling portable inkjet printer.

CANON BJ 20...................... NEW! £319.99
More Features than the BJ10, includes Auto sheet feeder. Top selling-Highly Recommended

CANON BJ 300................... NEW! £374.99
80 column bubblejet provides laser quality output.

CANON BJ 330................... NEW! £499.99
136 column bubblejet.

CANON Bubblejet cartridges...........£17.99

PHOENIX PRINTER PACK

Supplied with **ALL** printers containing 1.8m std. printer cable, printer ribbons/cartridge and 250 sheets of paper absolutely **FREE.**

PRINTER ACCESSORIES

We have a large range of **high quality** printer accessories for the all printers we sell including: **dust covers from £2.99 • Ink cartridges from £13.99 • Mono ribbons from £3.50 • Colour ribbons from £7.99 • Printer stands from £7.99**

SILICON CHIPS

AMIGA CUSTOM CHIPS

Kickstart 2.04 ROM...£34.99
Kickstart 1.3 ROM....£27.99 Fatter Agnus 8372A..£34.99
NEW Super Denise.£29.99 CIA 8520A.....................£9.99

MEMORY CHIPS

4 Mb x 9 (-70) Simm....£99.99 1 Mb x 4 (-80) Zip.....*£34.99
1 Mb x 9 (-80) Simm...£27.99 256k x 4 (-80) Zip......*£29.99
256k x 9 (-80) Simm...£12.99 1 Mb x 1 DRAM...........£3.49
256k x 4 DRAM.............£3.49 *This price is for 1 Mb of RAM

These chips cover practically every popular memory expansion or Hard Drive system on the market for the Amiga ie. GVP, SUPRA, MICROBOTICS, COMMODORE

"I must write to congratulate you on the efficiency of your mail order staff."
Robert S. Blair ~ Denmark

X-PAN MEMORY EXPANSION

SUPRA 500RX the ultimate in Fast Ram expansion units. *(*Uses 256x4 Zips)*

8 Mb pop to 1 Mb*..............................£99.99
8 Mb pop to 2 Mb*............................£124.99
8 Mb pop to 2 Mb..............................£149.99
8 Mb pop to 4 Mb..............................£209.99
8 Mb pop to 8 Mb £309.99

VISION MONITORS

PHILIPS 8833Mk II........ ONLY £194.99
Colour Stereo Monitor now including 'Lotus Turbo Challenge', and 1 years on-site warranty.

COMMODORE 1085 SDI £216.99
COMMODORE 1084 SDI..........£199.99

All monitors are supplied with a FREE cable for connection to your Amiga.

MONITOR ACCESSORIES-

14" Dust covers...£4.99
14" Tilt & Swivel stand.............................£13.99
Anti-Glare filter screen..............................£19.99
A4 Copy Holder...£12.99

"This is is the second time I have dealt with you and each time have had excellent service and rapid delivery"
Peter W. Beaumont~ Huddersfield

DISKS MEDIA

Don't confuse these quality disks with others currently available. 3.5" 100% certified error free 70% clip. All disks include **FREE** high quality Phoenix labels.

10	£4.99	200	£72.99
25	£12.99	500	£174.99
50	£22.99	750	£259.99
100	£39.99	1000	£339.99

TDK Branded disks- High performance media from the experts-box 10 with labels.

10	£5.99	100	£52.99
50	£26.99	500	£249.99

1000 Phoenix Disk Labels.................£9.99

WIRED LEADS & CABLES

Midi-Midi 2m....£3.99 Modulator ext....£9.99
Midi-Midi 3m....£4.99 Amiga-Scart.....£9.99
Midi-Midi 5m....£5.99 Amiga-8833MkII.£9.99
Disk Drive ext....£9.99 Joystick long ext..£4.99

Mouse/Joystick ext...£4.99
Mouse/Joystick splitter.....................................£4.99
*Serial/Modem cables..£9.99
*Amiga-Multisync..................................from£9.99
*Amiga-Microvitec...£9.99
*Amiga-CPC monitor..£9.99
*Amiga-RGB/TV...£9.99
*SCSI Cable various £9.99

Printer 1.8m.........£5.99 Printer 2.0m HQ....£7.99

*For full details of these cables or information regarding the right cable for the job call 0532-311684. Custom built leads are no problem Phoenix.

PHOENIX A 500+ 2 Meg RAM Upgrade Modules



A PHOENIX RAM module can expand your chip RAM up to 2 Mb by using the trapdoor expansion port. Extra RAM is necessary to unleash the incredible graphics capabilities of your Amiga. All our boards carry a full 2 year no quibble replacement guarantee. **It's never been cheaper to upgrade!**

1 Mb Fully populated RAM board.... NOW ONLY £34.99
1 Mb unpopulated RAM board.........£16.99

VIDEO MULTI-MEDIA

Rombo's Vidi Amiga 12 is the replacement for their complete colour solution bringing you the world's first mass market colour digitiser for **under £100.**

VIDI-AMIGA 12 .... ONLY £79.99
Outstanding features and plenty of **VFM!**-*(Value for money!)*-Highly Recommended.

ROCGEN Plus £129.99
Quality features and performance-Recommended.

ROCKEY BY ROCTEC

The new chroma key unit - used in conjunction with a Genlock - allows you to superimpose live video over graphics or video-substitute the brightness portion of a video source with a keyed image-Embed live video in graphics!

Phoenix Price.......................£269.99

Have you ever rued the fact that you didn't continue your music lessons because the teacher was either a psychotic animal who couldn't take your lack of ability as anything other than deliberate, or because the lessons were too dull? Well it's lucky for you that **Amiga Format** and **Mindscape** have joined forces to produce one of the most musical and educational (yet still strangely fun) competitions we have ever seen. Flex your fingers, tidy your tails, and prepare to enter a whole new world of music as you prepare to enter the competition of the month. It's your chance to win one of four £300 Miracle keyboard systems...

The Grand Amiga For
Win a Miracle key

The prize...

The Miracle system is one of the cleverest ideas we've seen for the Amiga – we gave it a 93 per cent rating in ***Amiga Format*** back in Issue 32.

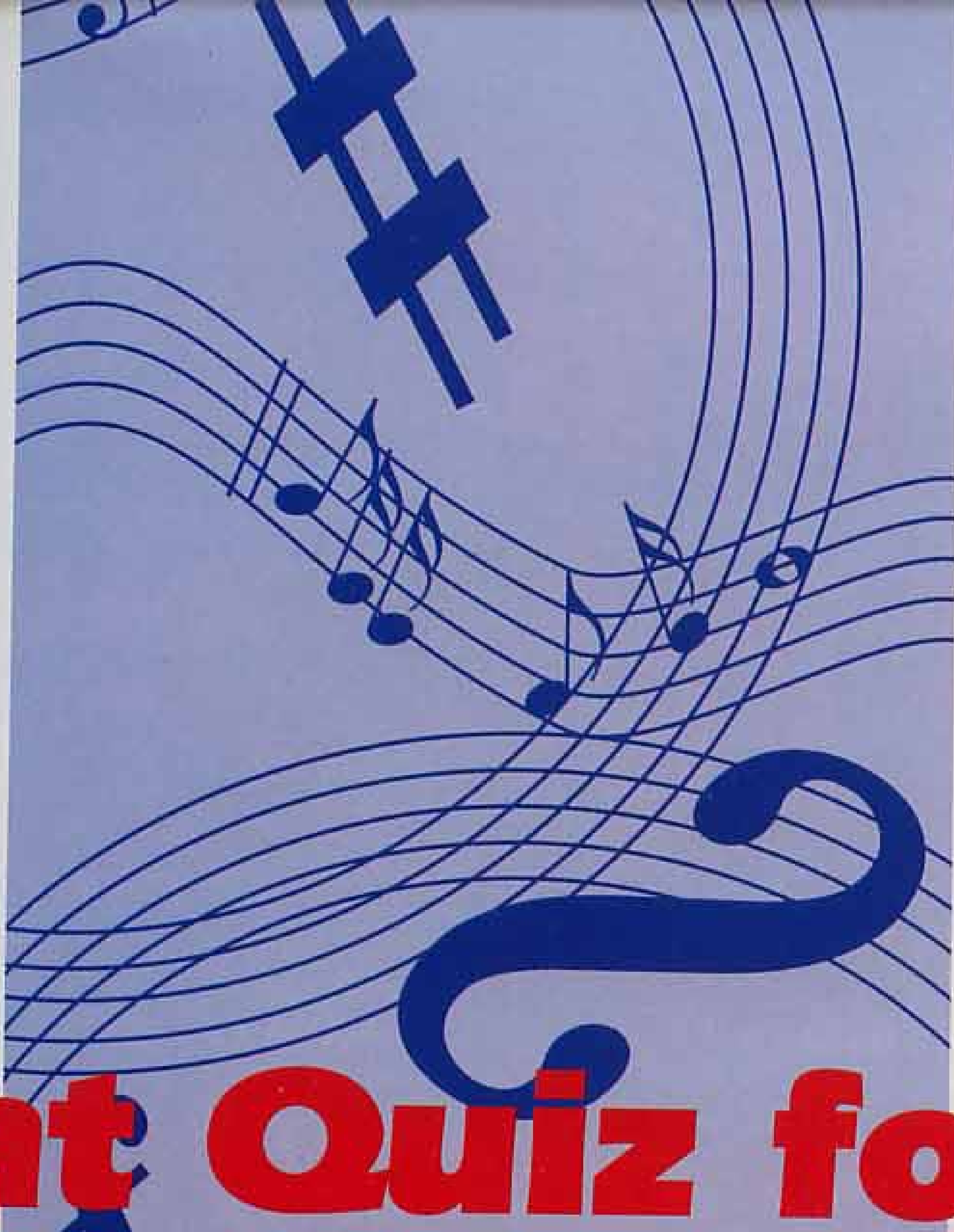
Along with the genuine synthesiser keyboard, with three octaves and 128 different voices, it includes a suite of amazing software. This takes you step-by-step through the basics of keyboard playing, assessing your performance as you go along, pointing out your mistakes and helping you to avoid them.

The system is aimed at anyone who has ever wanted to learn to play a musical instrument (but was scared off by vicious, pencil-on-the-knuckle-wielding teachers). It lets you go at your own pace and really is quite amazing!

The idea...

All you have to do is find the right answers to the 10 Miracle-related questions you find to the right of this spread. Then stick the answers down on the back of a postcard or a stuck-down envelope along with your name and address, and post it to us at the address below, to arrive before the closing date of December 15.





The address

When you've got the answers, stick them on a postcard or stuck-down envelope, remember to add your name and address and send them to Miracle Compo, *Amiga Format*, 29 Monmouth Street Bath BA1 2DL to reach us by December 15 1992. Best of luck!

The rules

You can enter as many times as you like provided each entry is posted separately. The winners will be drawn out of a hat after the closing date and the first four correct entries win a Miracle system.

Winners will be notified by post and names printed in the February 1993 edition of *Amiga Format*. No-one associated with Future Publishing, Mindscape or Software Toolworks may enter.

The judges' decision is final and no correspondence will be entered into. No cash or other alternative prize will be offered.

at Quiz for December
oard tutor system!



The questions...

1 **When it was released last year, the Miracle was widely advertised on TV and in magazines. What was the slogan?**

2 **Which duo had a hit with *The Miracle of Love (Comes This Way Again)* in December 1986?**

3 **Who went to number 13 in the charts in May 1982 with *Promised You a Miracle*?**

4 **Who had a number 4 hit with *It's a Miracle* in March 1984?**

5 **Which rock band reached only a disappointing number 21 in the pop charts with *The Miracle* in December 1989?**

6 ***Miracle* reached number 30 in November 1990, for who?**

7 **Whose backing group was called The Miracles?**

8 **Penicillin was said to be a miracle cure. Who discovered it?**

9 **Who directed *The Miracle of Morgan's Creek*?**

10 **Who directed *The Miracle Woman*?**

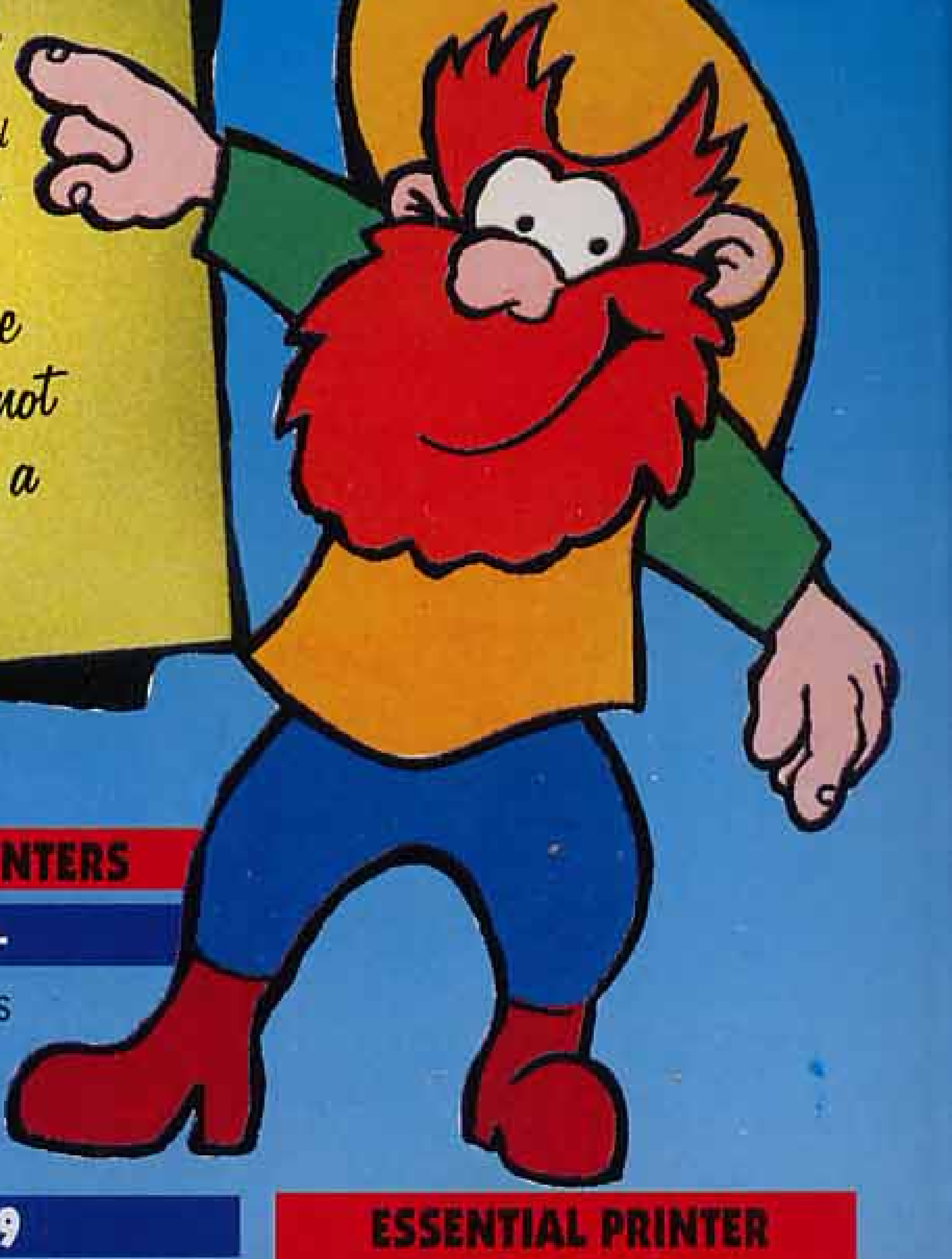
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£5 Price Blasters Pledge

Over the past year we have continually provided the best possible price coupled with the best possible service. That's why commencing from November we are introducing the Price Blasters Pledge.....

*In the unlikely event you are able to purchase any advertised item cheaper elsewhere we will not only match that price but will also send you a £5 Gift Voucher with our compliments**

*Subject to terms and conditions of sale (see page 4)



MEMORY/CHIPS/SPARES

RAM EXPANSION

A500 1/2 Meg no Clock............**£14.95**
A500 1/2 Meg with Clock..........**£17.95**
A500 Plus 1 Meg Expansion (upgrades A500 Plus to 2 Meg)**£27.95**
A600 1 Meg Expansion no Clock..............................**£29.95**
A600 1 Meg Expansion with Clock...........................**£34.95**

ROM SHARER/ROM

Keyboard Rom Sharer **£16.99**
Keyboard Switchable Rom Sharer **£19.99**
Kickstart 1.3 Rom **£21.99**
Kickstart 2.04 Rom **£32.99**

EXTERNAL RAM UPGRADES

Made by Power Computing Expandable up to 8 Meg, fully auto-config with thru-port. Suitable for any A500/A500+

2 Meg Ram Board **£104.95**
4 Meg Ram Board **£164.95**
8 Meg Ram Board **£279.95**

AMIGA CUSTOM CHIPS

CIA 8520A.................................**£6.99**
Super Denise...........................**£20.99**
Fatter Agnes 8372A **£29.99**

ESSENTIAL SPARES

T.V. Modulator.........................**£24.95**
Replacement Power Supply **£34.95**
Replacement Internal Drive **£39.95**
Replacement Quality Mouse.......**£9.99**
Mouse/Joystick Switcher Box Unit.................................**£9.99**

STAR PRINTERS

LC-20

9 Pin Mono, 180/45 CPS
ONLY **£116.95**

LC 100 COLOUR

9 Pin Colour, 180/45 CPS
ONLY **£149.95**

LC 24-100

24 Pin Mono, 192/64 CPS
ONLY **£164.95**

LC 200 COLOUR

9 Pin Colour, 185/45 CPS
ONLY **£166.95**

LC 24-20

24 Pin Mono, 180/60 CPS
ONLY **£176.95**

SJ 48 INKJET

True LQ Printer, 100 CPS
ONLY **£194.95**

LC 24-200

24 Pin Mono, 220/55 CPS
ONLY **£196.95**

LC 24-200 COLOUR

24 Pin Colour, 220/55 CPS
ONLY **£239.95**

CITIZEN PRINTERS

120D+

9 Pin Mono, 120/25 CPS
2 year guarantee
ONLY **£107.99**

SWIFT 9

9 Pin Mono with colour option, 160/40 CPS
2 year guarantee
ONLY **£159.99**
Colour version **£166.95**

SWIFT 200

24 Pin Mono with colour option, 180/60 CPS
2 year guarantee
ONLY **£189.99**

SWIFT 200 COLOUR

24 Pin Colour, 180/60 CPS
2 year guarantee
ONLY **£219.95**

SWIFT 240

24 Pin Mono with colour option, 200/66 CPS
2 year guarantee
ONLY **£249.95**

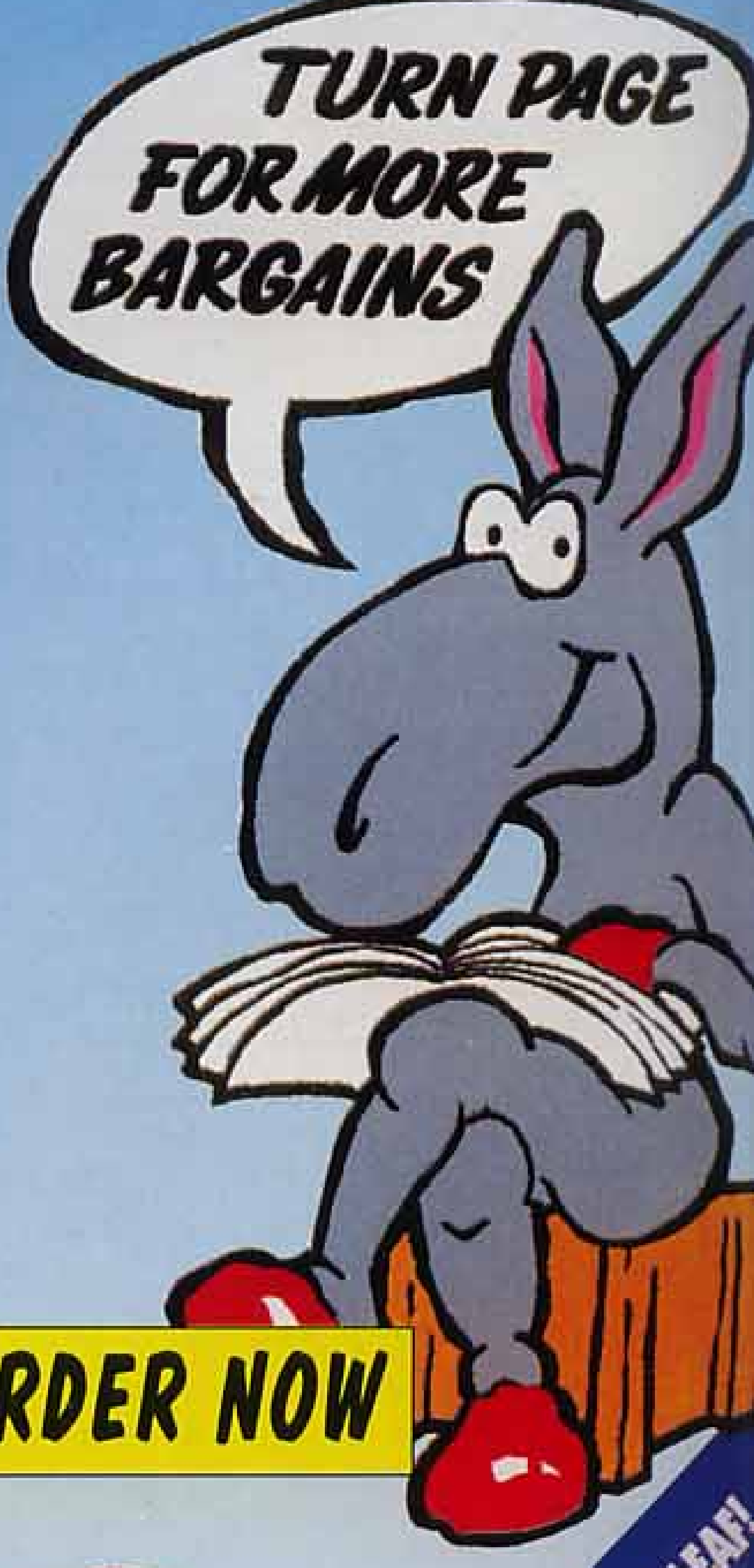
SWIFT 240 COLOUR

24 Pin Colour, 200/66 CPS
2 year guarantee
ONLY **£264.95**

ESSENTIAL PRINTER ACCESSORY PACK

- Amiga to Printer Cable
- 500 sheets continuous paper
- Universal printer stand
- Printer driver disk

ONLY **£9.99**
when purchased with printer



BEST POSSIBLE ADVICE, BEST POSSIBLE SERVICE & BEST POSSIBLE PRICE—ORDER NOW

9am – 8pm ORDER HOTLINE...

0234 214212

CHECK OUT OUR TOP 20 OVERLEAF!

MISSION STATEMENT

Now is the winter of our discontent! The A1200 is raring to go, promising to herald a new reign of the Amiga as supreme being in the computer world; the A600 gets its smart cards, enabling it to pack a punch that'd knock an ST for six; and the A4000 comes down from the clouds to laugh heartily at all things PC-compatible…

So why is there a dark cloud hanging over Christmas (apart from the obvious reasons that we're all either unemployed, skint or both)? Because the promised House of Commons Select Committee on 'Putting the punch back into games' has failed to materialise. Why? Because the MPs and bureaucrats in the Ministry of Fun don't know an A600 from the M25, that's why. Even the Rt Honourable Member for Batley and Spen can only get to level two on *Zool* and, as for the PM, well, he's been seen trying to plug MegaDrive carts into the A500's trapdoor. The only semi-computer-literate MP is the Chancellor of the Exchequer, and he's got a virus on his copy of *ProCalc* (and the country is beginning to notice its effects).

It's a shambles. There's no-one official that knows a jot about your favourite hobby. No-one to tell you the good games to get, or the bad ones to avoid. No-one, that is, apart from *Amiga Format*'s Screenplay. So this Christmas ignore all the console-pluggers, *Sonic*-slaves and Mega-beggars – they're all wrong and they're after your hard-earned, fast-diminishing dosh. Stick with your Amiga – it's a much better machine – and stick with us!

THE REVIEWERS

TIM SMITH
"A copy of *Player Manager* because I think Graham Taylor stole mine, though I don't think he worked out how to use it!"

KARL FOSTER
"I want *Carrier Command 2*, but nobody's written it! Blast! I'll just have to go back to *Carrier Command* on budget, then."

PAT MCDONALD
"*Caesar's* the geezer to please ya, mate. But don't blame me if it keeps you up so late you can't get into work the next morning."

ASAM AHMAD
"*Kick Off 3*, please, but I don't expect it'll be ready. Never mind, I'll play *Sensible Soccer '93*."

CLARE HODGSON
"*Road Rash* because I like the bit where you hit them across the head a baseball bat."

PAUL TYRRELL
"*Lemmings 2* is the one I've been waiting for, but I'm not sure if it's any good yet."

ED RICKETTS
"I want the 1200 version of *Civilization.* Then I want a 1200 to play it on."

ANDY LOWE
"Er, I'm not sure – I think *Putty* could be worth it, or perhaps *Zool*. Or maybe Nigel Mansell and a Freewheel steering wheel. Or maybe..."

NEIL WEST
"Um, I think I'd like to wake up to a copy of Madonna's *Sex* book. Oh, you mean games, well, in that case, Madonna herself, probably. You didn't mean that either, did you?"

Screenplay

Welcome to the heart of the Amiga games world. If you want to know what the best and worst games are, look no further. We've taken the very latest games and put them on trial before our panel of kangaroo court judges…



Classic Cheapies

What happens to a seriously amazing game when it stops being available at full price? Does it mysteriously vanish to that great game graveyard in the sky? Will it only live on in the collections of those few lucky people who bought a copy while they had the chance? Luckily, no! Many of the greatest games in gaming history are resurrected and revived to live a reincarnated life… and they're even better value, because they come out on a budget label at less than half the price! So here's your guide to the very best games ever, cheap! **Page 83**

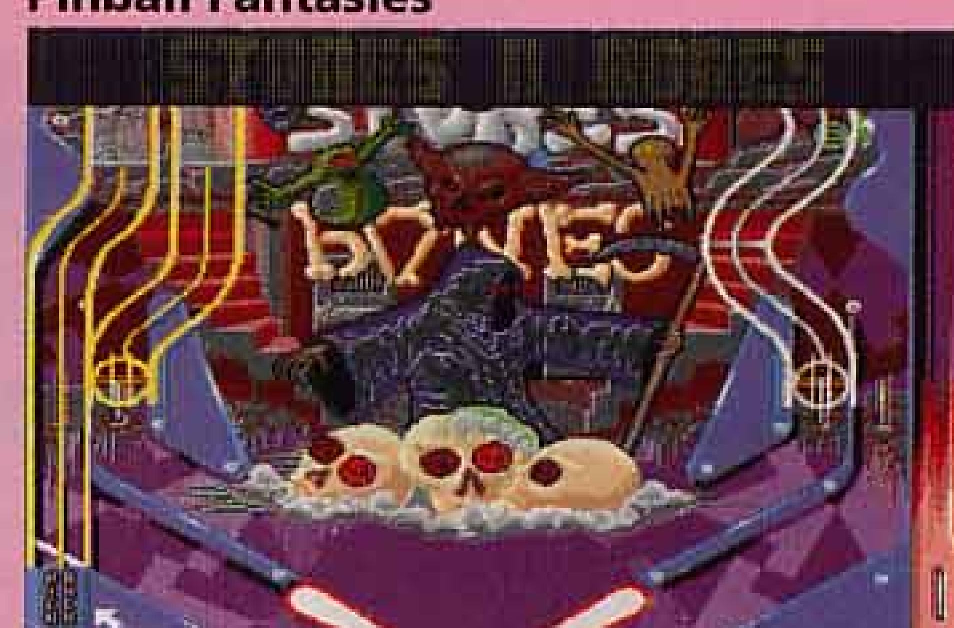
THE REST OF THE BEST – THIS MONTH'S TOP TITLES

Road Rash



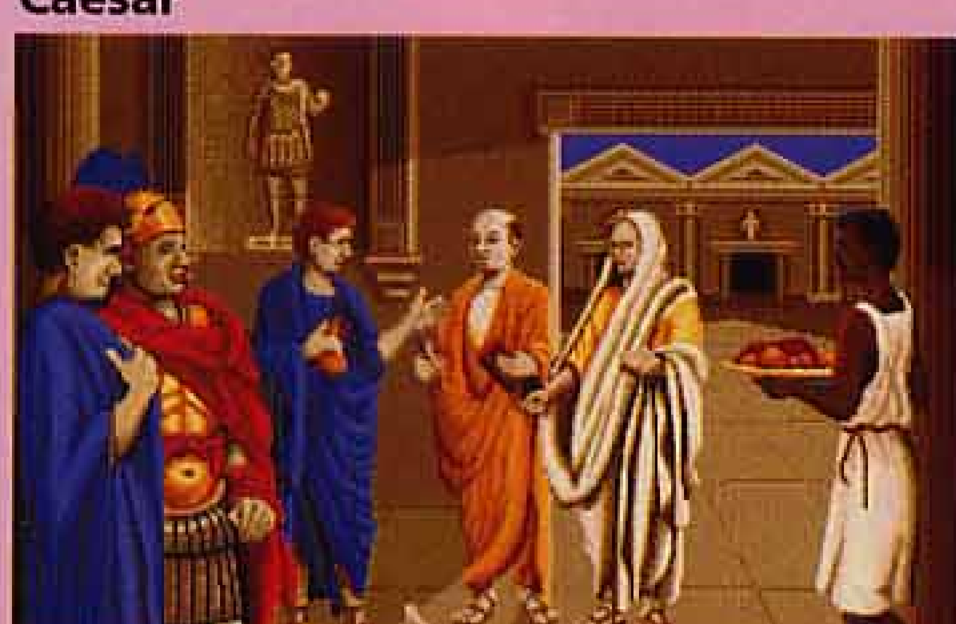
As if bikers haven't got a bad enough rep already, Electronic Arts continue the myth that they're all a bunch of dead 'ard nutters, not averse to a bit of the old ultra-violence. We take the racing line, all the way to the end of the road, to find out if *Road Rash* is just an excuse for mindless mayhem on two wheels. And guess what... it is! **Page 116**

Pinball Fantasies



Following on from the success of *Pinball Dreams,* 21st Century go one better with *Pinball Fantasies.* In case you hadn't already guessed, it's another pinball simulator, but this time it features multi-level tables with three flippers and tons of extras too. Find out why we've all become pinball junkies once again ... **Page 128**

Caesar

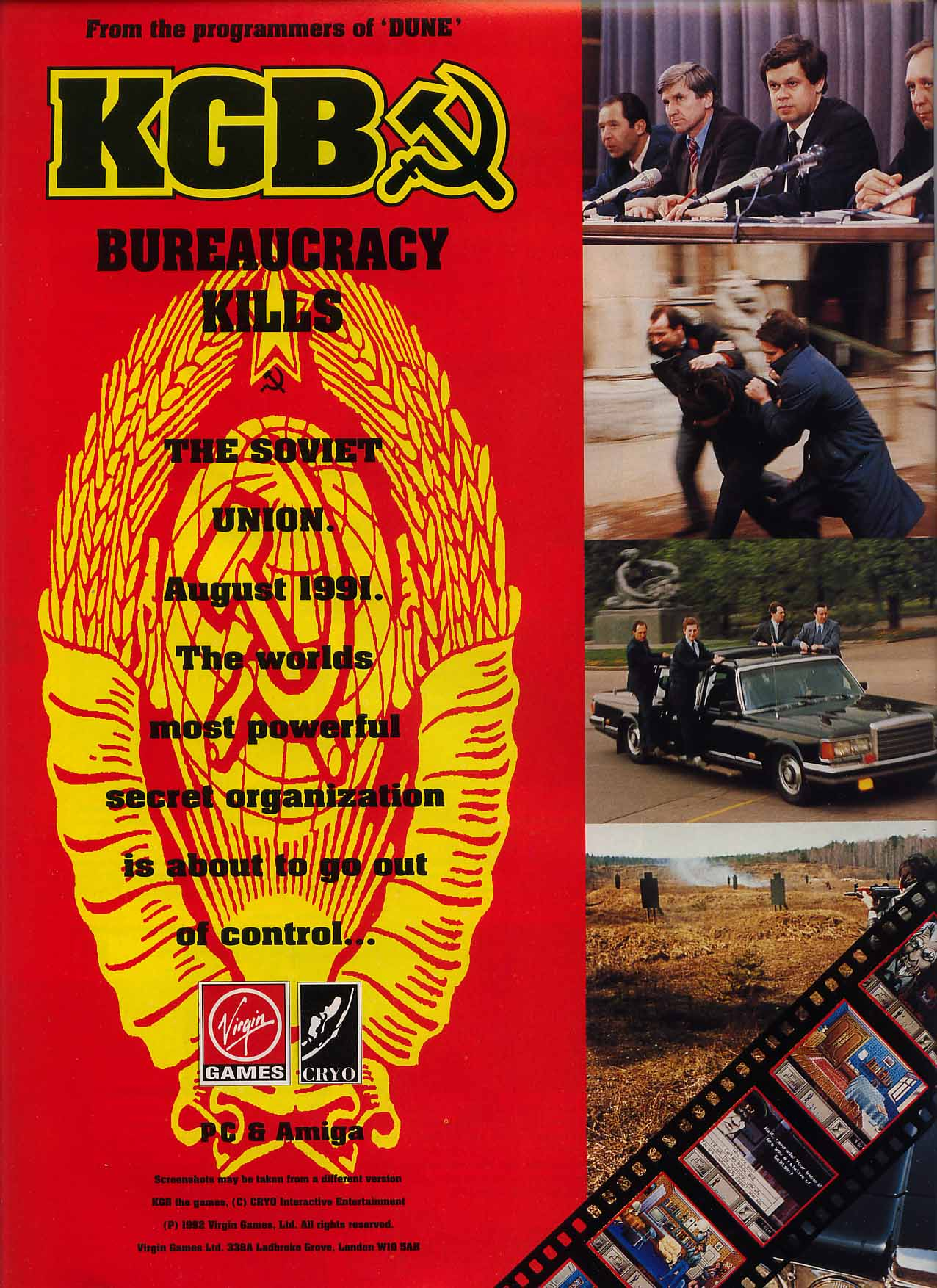


Shock of the month? Let's face it, Impressions haven't had what you'd call the greatest reputation for brilliant games, but that may all be about to change. Find out what it was like to be a Roman governor, rule the world and still have time for a quick bath before tea. *Caesar* turns out to be the best thing in decades... **Page 92**

Sabre Team



To those in the know, a sabre team is a group of crack SAS soldiers on a top secret mission. To those who don't know, *Sabre Team* is a new game from Krisalis, which puts you in charge of said SAS soldiers. Is it all action, or a study in strategy? Permission to turn to the review to find out, sir! Permission granted – double-time it to... **Page 132**


From the programmers of 'DUNE'
KGB
BUREAUCRACY KILLS
THE SOVIET UNION.
August 1991.
The worlds most powerful secret organization is about to go out of control...
Virgin GAMES
CRYO
PC & Amiga
Screenshots may be taken from a different version
KGB the games, (C) CRYO Interactive Entertainment
(P) 1992 Virgin Games, Ltd. All rights reserved.
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These days Amiga games tend to be a wee bit on the expensive side, and buying the latest and greatest titles can leave a big hole in your pocket. If you are prepared to wait a while, though, you'll find certain titles will appearing on budget labels at much lower prices. **Andy Nuttall** discovers that there's plenty going on in the world of…



Budget Classics

The introduction of the 'budget label' has, without doubt improved the lot of Amiga users. Not only can you now pick up some absolutely classic games, that you might have missed first time around, but you can also get them at bargain-sized, pocket-money price-tags.

Most software houses now have budget labels, and some have even found the newly priced software sells so well that they have have started to produce new games that first sell at a budget price.

It's generally thought that budget games are inferior to their full-price counterparts, but this isn't always the case. We've looked at the entire range of budget software, and picked out the classics. The list is in order of quality, taking into account all aspects of the games, including durability, playability, graphics and sound. So settle back and take your pick…



Rainbow Islands

The Hit Squad (Ocean)

£7.99

A superb conversion of the classic coin-op platform game. Control Bub'n' Bob as they travel through the seven Rainbow Islands attempting to escape the rising flood-tide. Incredibly bright, colourful graphics and maddening tunes combine with fluid gameplay to create one of the best games the Amiga has ever seen. Great value at full-price; on budget it's a must.



Pang

The Hit Squad (Ocean)

£7.99

This game caused a minor storm when it was released into the arcades, and the Amiga conversion is very true to the original. You have to shoot the bubbles (or balloons) as they bounce around the screen, but watch out because they fragment and scatter when hit. A classic example of a winning formula – a simple idea translated into a stupendously addictive game.



Bubble Bobble

The Hit Squad (Ocean)

£7.99

The forerunner to *Rainbow Islands*, *Bubble Bobble* has much the same gameplay. Controlling a tiny dinosaur, with an optional second player controlling a similar creature, you must negotiate a large number of levels filled with nasties and bonuses. Not as expansive as its successor (*Rainbow Islands*) but still has very polished presentation and colourful graphics. A great buy.



New Zealand Story

The Hit Squad (Ocean)

£7.99

Take a series of beautiful backdrops, some jolly tunes, a host of nasties and a small yellow kiwi, mix it with a large dollop of playability and what do you get? A perfect-ish conversion of the arcade classic *New Zealand Story*. Loads of platforms and levels, it follows the usual format of the platform genre, but includes some original points.



International Karate Plus

The Hit Squad (Ocean)

£7.99

A relatively old but very playable kind of beat-em-up, *IK Plus* really did set new standards when it was first released, and it's still one of the best games of its kind. You control a karate expert as he battles his way through several opponents in order to reach the master. Get your mate to take the controls of the opponent and it's a brilliant two-player game.



James Pond

GBH (Gremlin)

£7.99

An aquatic spoof on the classic secret agent stories, *James Pond* is a great twist on the platform shoot-em-up formula. Your job is to control Pond and help him complete 12 different underwater missions. Superb, cute graphics and bubbly sound-effects are definite plus points of the game, and Pond himself is very easily controlled. It's large and it's fun to play. Get it now.

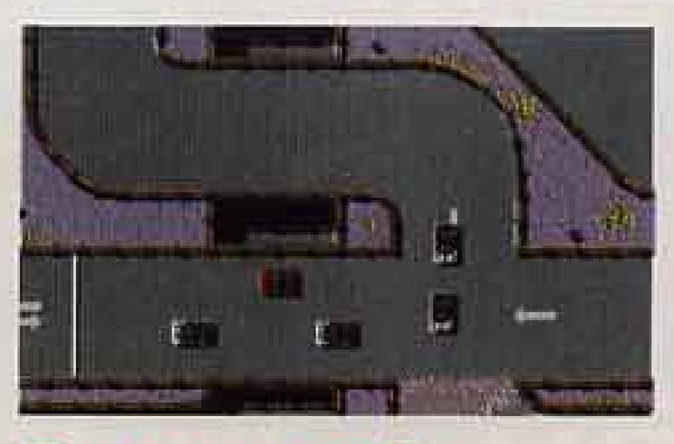


Turrican 2

Kixx (US Gold)

£7.99

Control your robot as it roams around five huge levels carrying a variety of exciting and unusual weapons, killing everything that moves. Great for a no-holds-barred blast-em-up, but the levels are just that bit too big, and the gameplay becomes a little repetitive after a while. Still a good example of the genre, though, and worth a place in anyone's collection.



Supercars 2

GBH Gold (Gremlin)

£9.99

A game which has become a cult classic, *Supercars 2* is the predecessor to Gremlin's own *Lotus Challenge* series of games. It's only just been released on their budget label, though, so turn to our review on Page 88.

Turn to page 88 for more

Continued overleaf



Batman The Movie

The Hit Squad (Ocean)

£7.99

A great arcade action game comprising five very different levels, including two platform-style sections where Batman must try to reach the Joker, a 3D driving and a flying game where you must steer the Batmobile and Batwing through the streets of Gotham, and there's also a puzzle game. Action-packed, fun to play, and great value for money.



Lotus Esprit Turbo Challenge

GBH Gold (Gremlin)

£9.99

A one- or two-player 3D race game that set a standard on the Amiga which remains very difficult to beat. Superb fast-moving graphics and a large number of options make this a game not to be missed. Surpassed by its successor (*Turbo Challenge II*), but until that's released on budget, this is an extremely viable option if you're after a car-racing game.



Wizball

The Hit Squad (Ocean)

£7.99

An age-old game that spawned the recent *WizKid*, *Wizball* was one of the original releases from the now-infamous Sensible Software team. Take control of the wizard as he and his cat try to collect enough paint to turn the various levels into glorious technicolour. Beautiful graphics, and unusually challenging puzzles constitute a great game in anyone's book.



Indiana Jones & The Last Crusade

Kixx XL (US Gold)

£14.99

In the style of the movie of the same name, this is an incredibly user-friendly adventure with great graphics and subtle humour. The puzzles are rather challenging, but the gameplay can become a little stale, especially when compared to the later *Monkey Island* games from the same software house. Definitely worth a look though.



Ultimate Golf

GBH (Gremlin)

£9.99

A superbly accurate golf simulation, which offers some excellent options and is great fun to play. Although it was surpassed in quality by later games such as *PGA Tour* and *Links*, it's still a great game in its own right. Also, importantly, it costs less than a tenner. It's a toss-up between this and *Leaderboard* for the best budget golf game, but you could do much worse.



World Class Leaderboard

Kixx (US Gold)

£7.99

I'm almost tempted to just ask you to read the review on the left, because almost the same applies here. *Leaderboard* was, for a good number of years, the definitive golf game over a wide range of home computers; but it was left behind in the wake of the later golf games to appear on the Amiga. Very good for eight quid though.



F-16 Combat Pilot

Action 16 (Digital Integration)

£9.99

One of the original flight simulations on the Amiga, *F-16*'s display is half-filled by a million dials. Most of them are pretty essential if you want to stay in the air, so you'd better make sure you have either got a degree in patience or a propeller strapped to your head before you try taking off in this.

It still takes some beating by the up-and-coming flight simulations on the market.



Super Hang On

The Hit Squad (Ocean)

£7.99

A classic motorbike racing game which is a near-perfect conversion of the arcade original. Fast-paced with very smooth graphics, *Super Hang On* provides thrills and spills which have only been surpassed by the very best in Amiga racing games.

The grand old daddy of Amiga racing games, and at this price makes a visit to your local software shop very worthwhile.

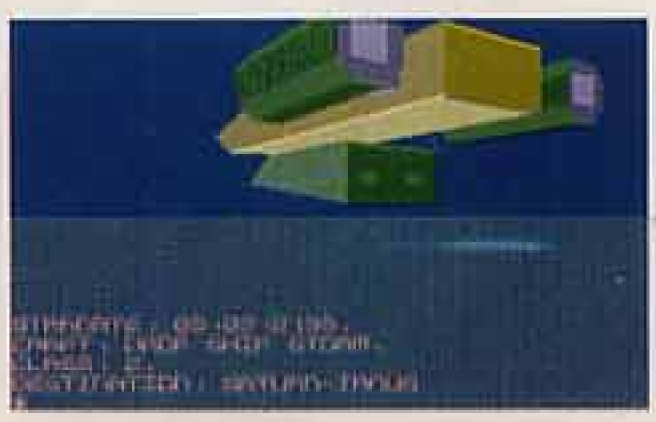


Super Monaco GP

Kixx (US Gold)

£9.99

An excellent conversion of the arcade coin-op, *Super Monaco* on the Amiga actually manages to improve on the original game with the addition of three extra tracks. Breakneck speed and strong graphics all combine to make a very playable and very intensive Formula One racing game. It provides a real challenge to even the most hardened of race addicts.



Voyager

The Hit Squad (Ocean)

£7.99

A filled, 3D-vector, polygon-based game, *Voyager* really paved the way for many similar style games to follow. Combining various shoot-em-up elements with an explorational theme, it manages to create a tense and nervous atmosphere which adds a lot to the slightly simplistic gameplay. Great to look at, though a bit dated, but it's still fun to play.



Team Suzuki

GBH (Gremlin)

£7.99

An incredibly fast-paced motorbike racing game with some great 3D graphics. The only thing *Team Suzuki* is let down by is its over-sensitive controls. It looks very impressive, even by today's standards, but it has been surpassed in terms of gameplay by *Indy 500* and *Formula 1 GP*. At only eight quid, though, it's a really good addition to a racing fan's collection.



Switchblade 2

GBH Gold (Gremlin)

£9.99

This polished but ageing platform game is still more than popular today because of its authentic coin-op graphics and arcade platform style. And it's only recently released on budget – something of a bargain!

Turn to page 88 for more

Continued on page 87

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THALION



Rick Dangerous

Kixx (US Gold)
£7.99

An unashamed platform game that manages to stick to the rules of scrolling shoot-em-ups like glue. You take control of the hero, Rick, who is an intrepid adventurer who must traverse a number of levels at the same time as shooting baddies and avoiding traps. OK, so it sounds like the same old story – and yes, it is – but it's exciting, fast, and very playable.



Resolution 101

GBH (Gremlin)
£7.99

A fast-moving and a very pretty game, *Resolution 101* is a 3D game in which you play a criminal who has been released in order to kill another criminal. Yes, I'm afraid it's strange storyline time again, but in this case it's totally excusable because the game's really great. Lacking slightly in variety, but with a strong plot and fairly atmospheric graphics.



Flight Of The Intruder

Action 16 (Digital Integration)
£14.99

This game puts you in control of a Grumman A6 fighter plane, an aircraft that played a large part in the Vietnam war. Coincidentally, that's exactly where this game is set. You must fly the plane from an aircraft carrier and perform several missions within enemy territory. A highly realistic simulation requiring a cool nerve and quick reactions.



Midwinter

Kixx XL (US Gold)
£12.99

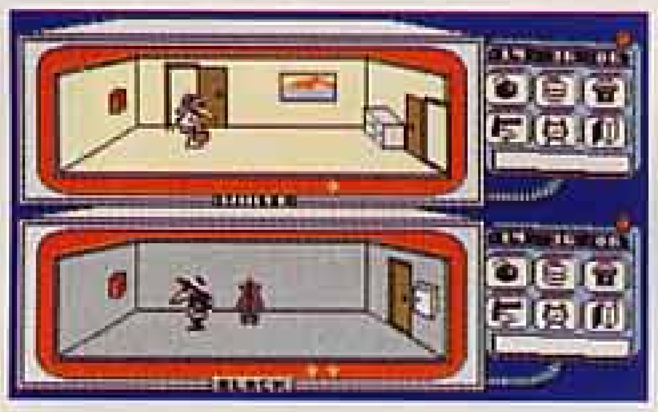
With excellent 3D graphics and an element of strategy, *Midwinter* is a vast game set in a new Ice Age on Earth. You must control a team of 32 survivors as they fight for survival against both the elements and hostile invaders who want your land. It's not easy to win, but it can be very rewarding when you achieve your goals. Definitely worth a look.



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One of the all-time classic flight simulations, *Falcon* combines fast action with a myriad of controls to create an atmosphere as close to flying a plane as you can get without buying a Rediffusion simulator. You must pilot a Falcon fighter aircraft and try to blast as many enemies as you can. Although it's expensive for a budget title, it's very realistic and well worth the money.



Spy Vs Spy

Wicked Software
£7.99

A very old game that owes its heritage to the 8-bits. You control a spy as he races around an embassy searching for pieces of a missing rocket. Not much is added for the 16-bits, so for the single player this is a bit of a joke by today's Amiga standards. For two players it's worth a look – there's nothing like blowing your mate up or setting fire him for an evening' worthwhile fun.



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A neat conversion of the classic Japanese coin-op shoot-em-up, *R-Type* also spawned many similar games (including *R-Type 2*) which managed to improve on it in terms of both gameplay and graphics. OK, so it's not all that new, but for a piffling eight quid this is a horizontally-scrolling megablast that should keep you occupied and entertained for hours on end.



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This superb aircraft carrier simulator may be a little old now, but it's still very good to get it out of the cupboard and have a good sail around the ocean, complete with both air and sea assault craft. Sequel now!

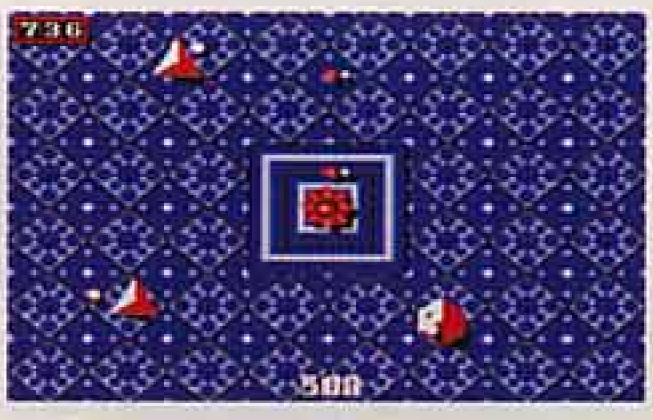
Turn to page 88 for more



Castle Master

The Hit Squad (Ocean)
£7.99

Written using the pioneering Freescape system by Incentive, *Castle Master* stretches the system to the limit. You play a knight whose twin brother has been kidnapped by a dragon and imprisoned in a castle. You must make your way through the castle, armed with a handful of rocks, and try to free the captive. It isn't easy and requires a good deal of lateral thinking.



Shoot-'Em-Up Construction Kit

GBH (Gremlin)
£9.99

An ageing but still very usable utility that enables you to create your own shoot-em-up games with the greatest of ease. It shows its 8-bit ancestry in parts, but it's full of useful features which are very simple to use. These, coupled with the well-written manual, make this a program that all Amiga owners should have.



Summer Games

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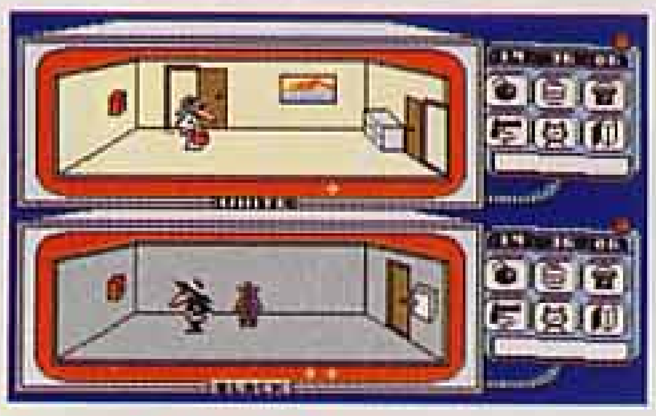
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Continued overleaf

Current releases

World Championship Boxing Manager

GBH (Gremlin) ■ £7.99



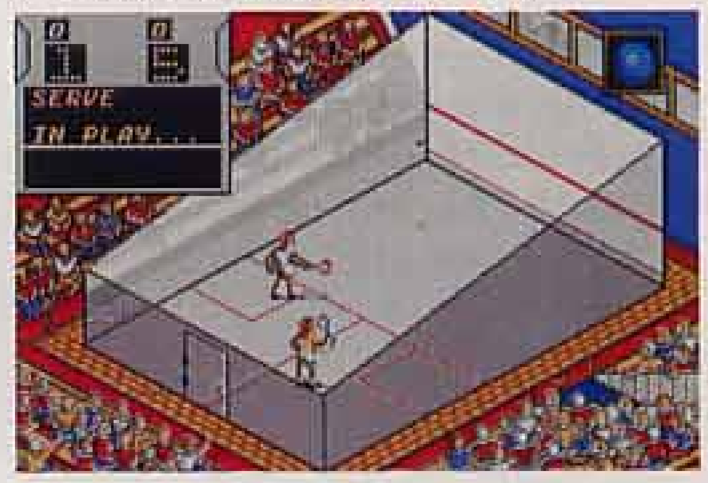
The predecessor to this game, *Tracksuit Manager*, was a success. I'm not convinced, though. I mean, who would want to manage a tracksuit? *Boxing Manager*, now that's more convincing. At least, it would be if the game wasn't so poor. The management parts are OK, but if you want some real boxing action, and decent sound effects, then forget it. The static graphics are fine, but when you get to the main fight all you can see are two commentators' heads nodding up and down, with a speech bubble relaying the action.

Fine if you want an introduction to management games, but if you expect some visual rewards for all the effort you put into playing the game, look elsewhere.

Verdict 60%

Jahangir Khan World Championship Squash

GBH (Gremlin) ■ £7.99



The problem with computer squash is usually the view of the court. Normally this has to be viewed from a third-person isometric angle, or you lose the feel of the game. This means that the court must be incredibly small and this limits the play. Although *JK's Squash* tries to avoid falling into this trap, it fails.

The graphics are good and the sprites move smoothly. The players hold their racquets towards their right-hand side to save complicating the gameplay. Unfortunately, it makes hitting the ball on the left of the court difficult. As with most two-player games, it's good to play against your mates, but the interest soon wanes. Against the computer the interest wanes after one game.

Verdict 63%

Dizzy – Prince of the Yolk Folk

CodeMasters ■ £7.99



This latest game in the *Dizzy* series features the usual cartoon-quality graphics we have come to expect and also some nice sound and music. A good storyline prevents the game's durability taking a nosedive, but the major problem is that the game is not really original because so many Dizzy games have been presented in this format. If you're looking for something different, this isn't for you.

Another problem is that you only get three lives, which makes it rather tedious because there's no save-game option – every time you lose your three eggy lives you have to start from the beginning again. *Prince of the Yolk Folk* is a game for fans die-hard of Dizzy and people who want an easy arcade adventure. But it can't be bad for a price of £7.99.

Verdict 81%

SuperCars 2

GBH Gold (Gremlin) ■ £9.99



In the early days of 3D racing games, *Super Sprint* appeared in the arcades and it caused a real stir. Its incarnation on the Amiga was *Supercars 2*. Now on budget, you too can take control of this overhead view-style racetrack. The idea is obviously to win. But if your driving skills aren't up to this, there are other tricks at your disposal that you can use to nobble opponent: missiles, mines, rams all sorts of destructive hardware are here.

The graphics are small, but they are detailed. The feel of your car as it screams around the corners is impressive, as is the way your missile hangs around your car for a while after you've launched it. The tracks scroll very smoothly and the sound effects and music are excellent. An old formula, but one which works very well, especially for £8.

Verdict 82%

Carrier Command

Kixx (US Gold) ■ £9.99



Kixx, bless 'em, have picked up this ex-Imageworks title, dusted it off and released it for under a tenner. Using fast-moving 3D graphics, which were ahead of their time at the time, *Carrier Command* puts you in control of a large aircraft carrier and all the equipment contained therein. Your job is to sail around, trying to take over as many islands as you can before your enemy can get at them.

As well as the carrier and its armaments, you have a whole range of craft which can be remotely piloted and armed with a selection of weapons from an extensive armoury. A good mix of strategy, arcade and flight simulation makes this an absolutely essential buy – it'll keep you going for days. Get it, play it and write to your MP demanding a sequel.

Gold 90%

Switchblade 2

GBH Gold (Gremlin) ■ £9.99



The original *Switchblade* was panned for having tiny sprites and jerky scrolling. The sequel is quite the opposite. Large sprites, are nicely animated, move about platforms and scroll smoothly.

You do the usual trick of controlling a heroic figure as he rushes about trying to vanquish foes and pick up bonuses. The first level is underground, so you can only see what's inside a room when you're standing in it; other levels are set outside and offer some well-drawn scenery which make it look like an above-average coin-op game. The problem is that the in-level play is easy, but the end-of-level guardian is too tough, and this becomes annoying when you find yourself looking for as many bonus lives as possible just so that you can make it past the final areas.

Verdict 79%

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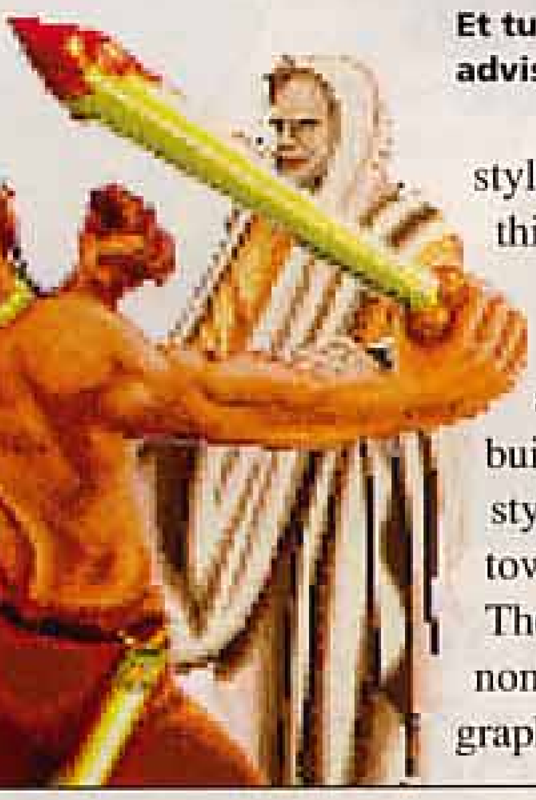
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Romanes Eunt Domus? People called Romanes, they go the house? Nope. People called Amiga-owners, they build the houses. They also build the roads, the aqueducts and provide the education, the sanitation, and keep the peace...

Caesar



Et tu Brute? Life in the forum is not as easy as Frankie Howerd made out. Here you consult all your advisors as to the state of your province, and attempt to keep the population under control.



Everybody loves a fairy tale ending, but for Impressions, *Caesar* could well be the fairy tale beginning. After years struggling to make an impression on the games world, this independent software house has finally come of age. Five minutes with *Caesar* will tell you, that you have to have this game. Once you've got it home, you can kiss the world goodbye. Five minutes' play soon turns into five hours, then five days – and still it's impossible to tear yourself away.

Caesar is very much a mixture of games: there's a hearty chunk of *Sim City*-style construction work, except that everything has a gorgeous Roman flavour. There's a lump of *Populous* too, thanks to the different people who wander about the finely-paved streets that you build. There's even a bit of *Railroad Tycoon*-style mapwork to be done, linking up distant towns and villages to your Roman sim city. There's almost as much history and economics as in *Civilization*, with more detailed graphics. And, to cap it all, *Caesar* has wargaming action of the kind you find in many an SSI game, except that it's a lot better.

Because there's such a mixture, you'd expect *Caesar* to be quite a bewildering game, but nothing could be further from the truth. It functions on three levels: the European map, the Provincial map, and the City map. The Emperor randomly chooses the European country that you're given control of, and that dictates what your Provincial map looks like. Each province has a capital city with its own map and that's where you start building.

Rome sweet Rome

Moving around between the different levels is dead easy, and once you've zoomed in to City level you can begin creating your city. To start with, it's just a bunch of fields and rivers, so your first move is to build a Forum.

To the Romans, the Forum was everything. Their advanced civilisation depended on places where they could go and speak their minds, exchange ideas and generally chip in to the running of their society. In *Caesar*, the Forum is the centrepiece of the city. Houses are laid out around it, or are connected to it by roads. Soon the buildings near the Forum soar in value and better buildings replace the humble tents you pitched to begin with.

But before anything gets started properly, you need to address the basic need for water.

PROVINCIAL AND MUTUAL ASSURANCE

Beyond the city lies a whole province waiting to be subjugated and exploited. The real Romans were great at this game, bringing civilisation and security to the people of outlying villages, but still making heaps of cash out of them. The population soon warmed to the Romans' high standard of living and strong fortifications. Only a few tribes of die-hard barbarians really resisted, but they often made quite a mess of the Roman cities when they got through. Both Rome and Londinium were sacked by barbarian hordes during the Roman era.



On *Caesar*'s province map, you control your legions, trying to fend off hordes of barbarians. Battles are resolved on a separate screen.

In *Caesar*, as leader of the province, one of your tasks is to keep out the barbarians and bring extended civilisation to the area. You do this on the Provincial level map, where you find your capital city (the one you've been landscaping) and a few far-flung villages. Barbarians regularly nip across the borders for a bit of rape and pillage, and you've got to stop them. You can build huge walls and towers (like Hadrian did) and post Legions in trouble spots to protect the locals. The most effective way of securing your future is to build roads from your provincial capital to each of the outlying towns. Once connected, the towns increase in size and help boost the level of trade back at your capital. If you can keep the peace, and expand your road network throughout the province, you're well on your way to a promotion the next time the Emperor visits.

ROMANCING THE STONE

Roman-style cities are the central features of the newly-conquered Provinces and, as such, they're opulent cultural havens where the rich live and the poor work. But the inhabitants are a pernickety bunch and they need a lot of amenities before they'll move in – not least of which is housing. Roman houses come in all shapes and sizes, but they all start as tents. Only improving land values can turn a tatty tent into a vibrant villa, and you won't help matters by forgetting to pipe in the water. Other factors like nearby industry and business can drop a suburb's value, but they're necessary evils. If there's nowhere to work, no-one will move in. Here's a full list of the buildings you can use for your cities:



PLACES TO LIVE
You can build better houses, but you have to start with tents.

PLACES OF WORSHIP
Temple: these grow in size with the local population.
Oracle: vital for the spiritual peace-of-mind of your people.

ADMINISTRATIVE BUILDINGS
Forum: there are eight different types, each one claiming taxes from a specific area of the city.
Prefectory: the local cops help to collect taxes and keep the peace.

COMMERCIAL BUILDINGS
Marketplace: vital for trade, and therefore for prosperity.
Heavy industry: you need this to supply other businesses.
Businesses: they offer work to locals and sustain the economy by selling all manner of taxable goods to provincial towns .

THE LIQUID LIFE-BLOOD
Water reservoir: before you can hook pipes up to the river, you need one of these.
Fountain: these supply the all-important water to the population.
Bath-house: they were a clean lot, the Romans. Without a nearby bath-house, they soon decide the place stinks, and leave.
Well: if there's a dry zone, and no river nearby, a well will provide water for a few houses.



Battles can be as complex or as simple as you want, thanks to the facility to use *Cohort 2* for wargaming at close quarters. Without *Cohort 2*, you can choose from five basic fighting manoeuvres.

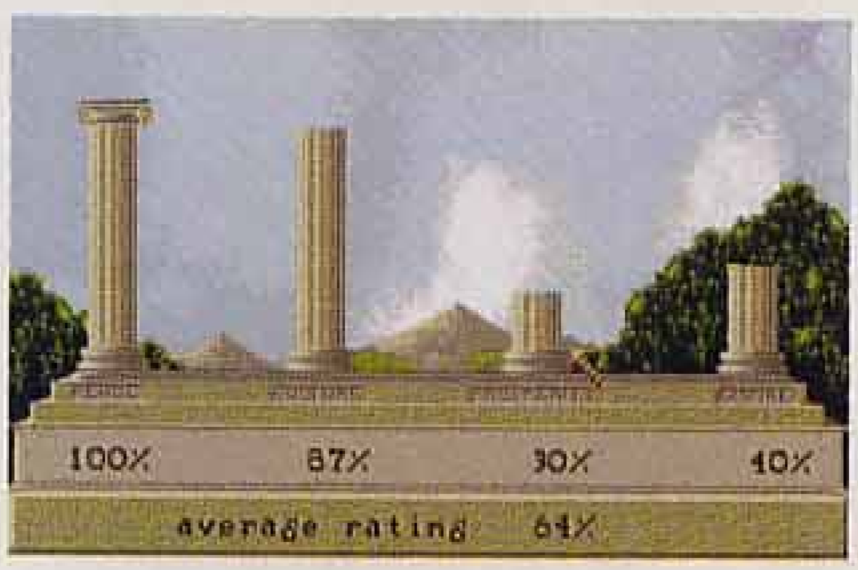
Fountains have to be installed and connected via pipes from the nearest river. If there's no water, no-one will move in and your city will never grow. It's a bit like the problem of electric power in *Sim City*, only it's not as easy to supply a whole city with one pipe. You really need to incorporate the water supply into your city design or you'll get hopelessly tangled and the fountains will stop gurging and dry up.

Once you've established a foothold, you've got to make your city grow and prosper. There are plenty of things to help attract new residents, like temples and amphitheatres. But there are also plenty of things you need to manage carefully, like security from invasion, dissatisfied subjects who riot and tear down houses, and the business of collecting taxes. It's a never-ending job.

Meanwhile, as you're learning how to cope with Roman city life, things are happening in the rest of the province. Barbarians are sure to pay a visit or twelve, and they can make life very awkward, especially if they make it all the way to your city. This is where your legions of soldiers come to the fore. On the Provincial map, you can move legions around, engaging in battles, patrolling trouble spots and establishing new forts and strongholds. The battles are fairly simple affairs, with a choice of five combat formations. There's even an option to resolve individual battles using Impressions' earlier game *Cohort 2*. This gives the wargaming purist a chance to get all the detail, while keeping things simple for the player who's more interested in city-building. Because *Cohort 2* is already available you don't have to wait six months for an expansion, like most other sim-games with add-ons.



Can you help expand the Roman Empire right across the European sub-continent? With each success, you are offered the chance to move to another province and start all over again, with only a slight increase in difficulty level.



The administrative advisor on your forum screen gives you a visual indication of your prowess as governor of the province. If you can get the pillars above a certain height, you'll get a visit from the Emperor, and maybe a transfer.





The effects of tax and conscription are easy to spot. The once-proud city (left) soon turns into a ruin (right) when the people get angry. You have to act fast to quash the revolution or you're city will be virtually worthless in a few minutes.

Forum-nil

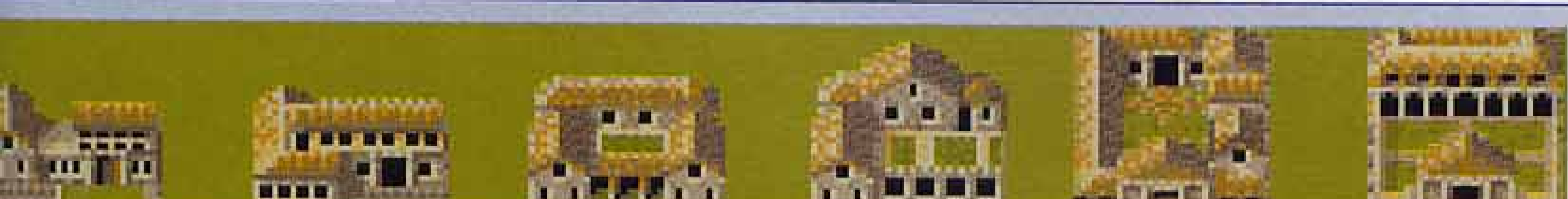
Aside from the city-building and the fighting, there are still more things to be done. Controlling your population is done via the Forum screen where you can consult each of your main advisors for statistical data, which is beautifully presented in Roman-pillar style bar charts. Everything a good leader needs to know to run a city is tucked away in easily accessible maps and screens.

It's easy to get carried away with *Caesar*, because it really is a great game. It's certainly the best of the sim bunch, and a pretty good wargame too. It never seems to stop, either. Once you've got a province under control and eveything's on the up and up, the Emperor pops over to offer you promotion.

You can decline his offer, choosing instead to stay on for another 10 or 25 years if you've become particularly attached to your new home. If you take the promotion, you start all over again in a different part of Europe with a lump sum for building a new city plus a salary increase. After many years (in real terms, a good few weeks of play) you can make it to Emperor yourself, and then play the whole thing again.

Now that Impressions have proved what they're capable of, let's hope we see many more games of the exceptionally high quality of *Caesar*. There's a lifetime waiting to be wasted with *Caesar*, and I for one can't wait to get started all over again.

Neil Jackson



TRANSPORT AND TRAVEL
Roads: the Romans hated walking across the mud, especially when returning from the baths, so roads are the second-most important elements of the city.
Plaza: to really raise the value of your town, pave some of the roads with high-quality slabs.

CULTURAL CENTRES
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Hippodrome: for the top in spectator sports, you can't beat a bit of chariot racing at the Hippodrome.

SECURITY AND DEFENCE
Barracks: grubby soldiers may annoy the locals, but they beat the hell out of rioters and barbarians.
Wall: Hadrian's wall is nothing compared to the stonework defences you can build.
Tower: if your wall keeps falling down, strengthen it with a tower.

CIVIL SERVICES
School: what have the Romans ever done for us, apart from introduce education?
Hospital: butchers by our standards, but to the Romans they were better than the NHS.

Caesar
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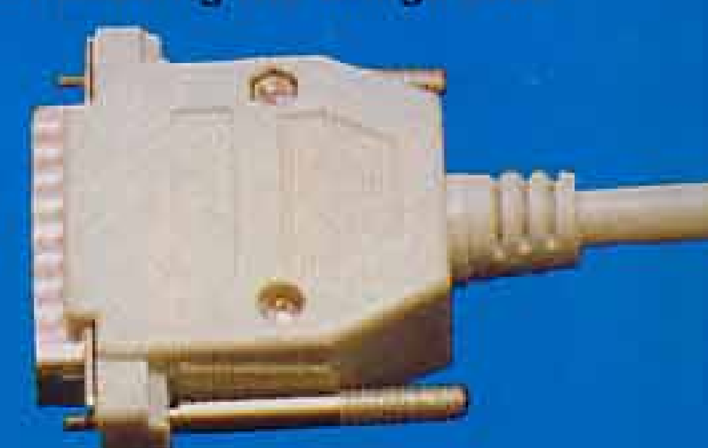
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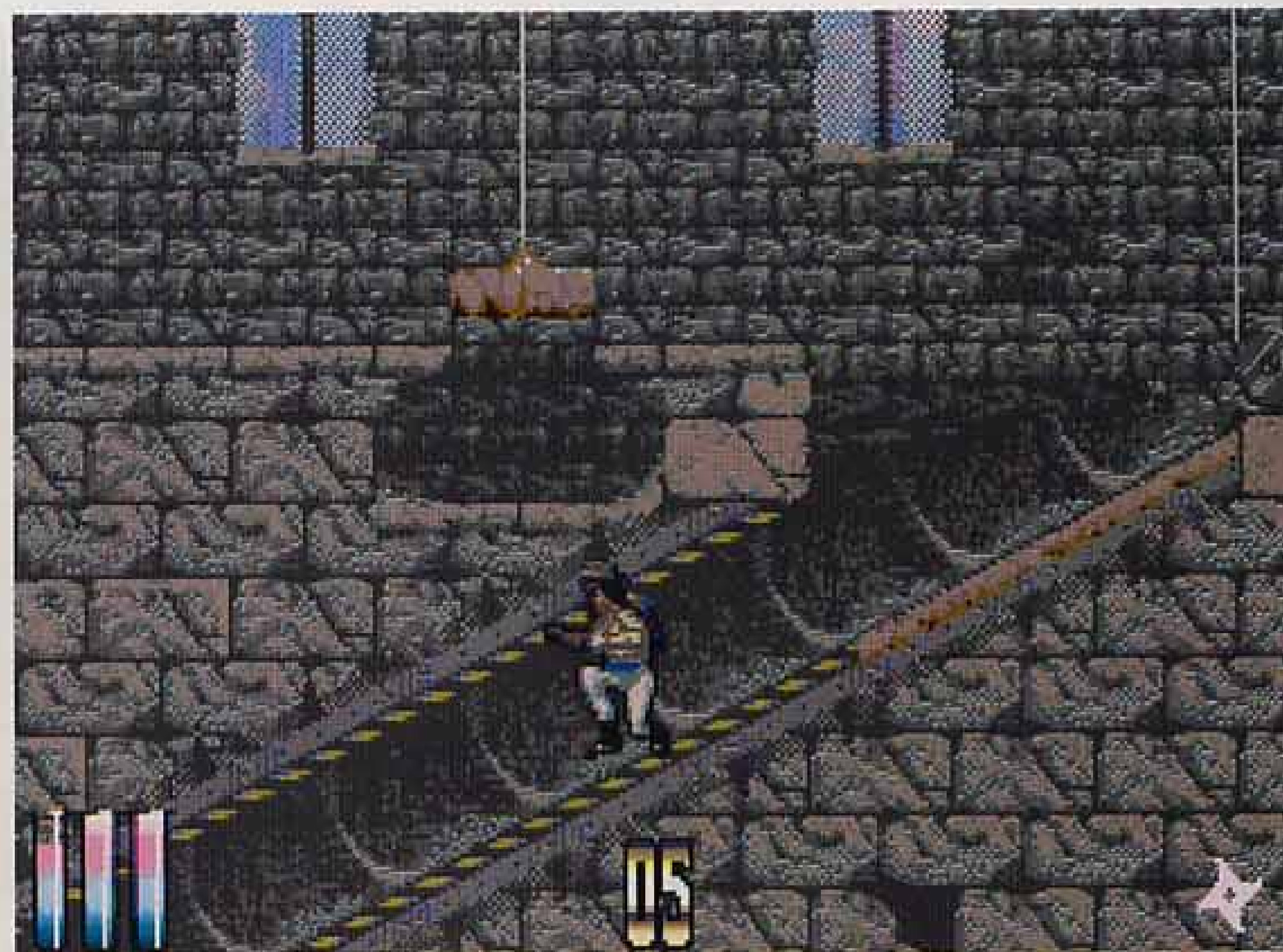
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The exploding purple flora of... um... Kara-Moon (that's never right, surely?) greets our hero with a cheery wave and a gigantic rupturing movement of its innards. Lovely.


This is a great bit, this. When you get down the chute there are two switches. If you pull the wrong one, you instantly drown and go right back to the beginning again.

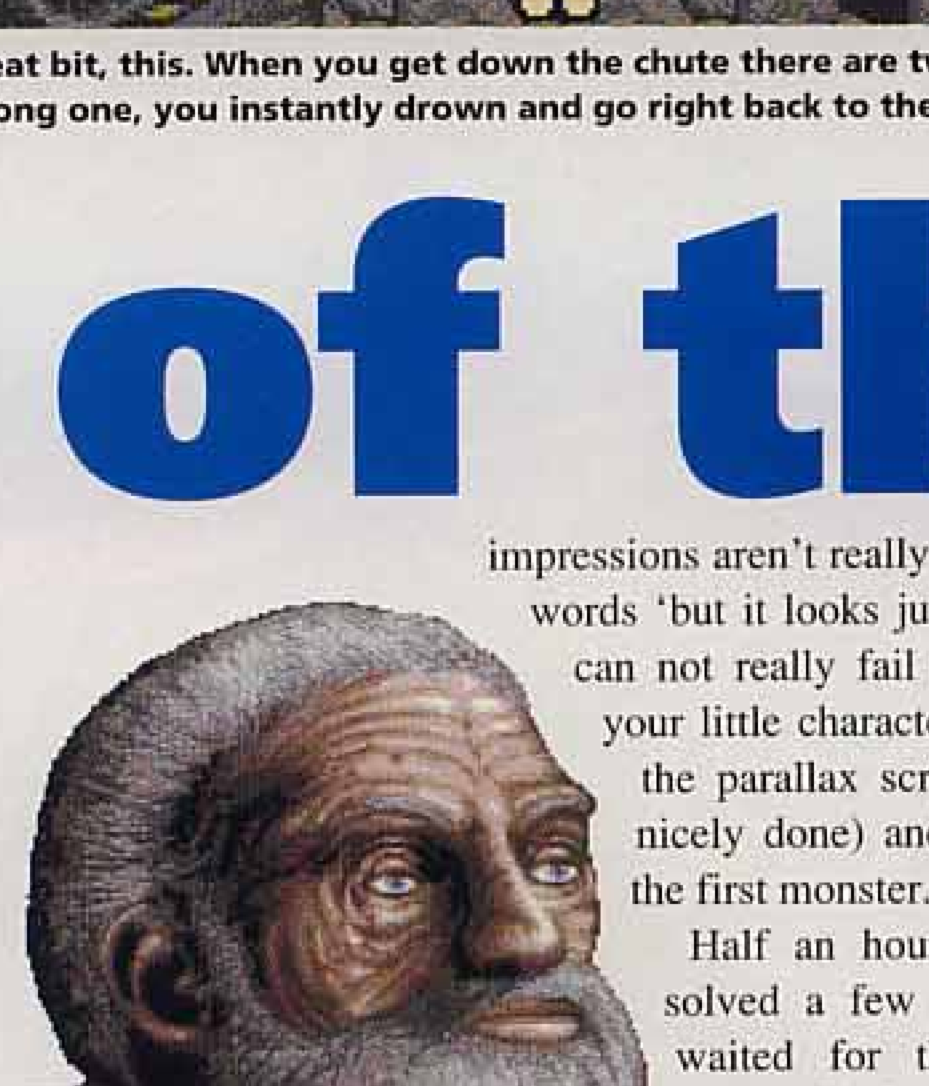
Shadow of the

Any programming team commissioned to write the last in the series of *Beast* games would no doubt have their own ideas about which beasts really terrify them most. It would be spiteful to suggest that perhaps Originality, Innovation and Gameplay are three candidates – so call me spiteful.

But enough philosophising. Why *Beast 3*? Why not let a tired old genre shrivel up and die in peace? The Psygs say this is almost definitely the last *Beast* game and it's taken two years to write. (Not that I would ever suggest that it's because they continually did everything in their power to put off writing the thing, goodness no.)

Aren't we prejudging?

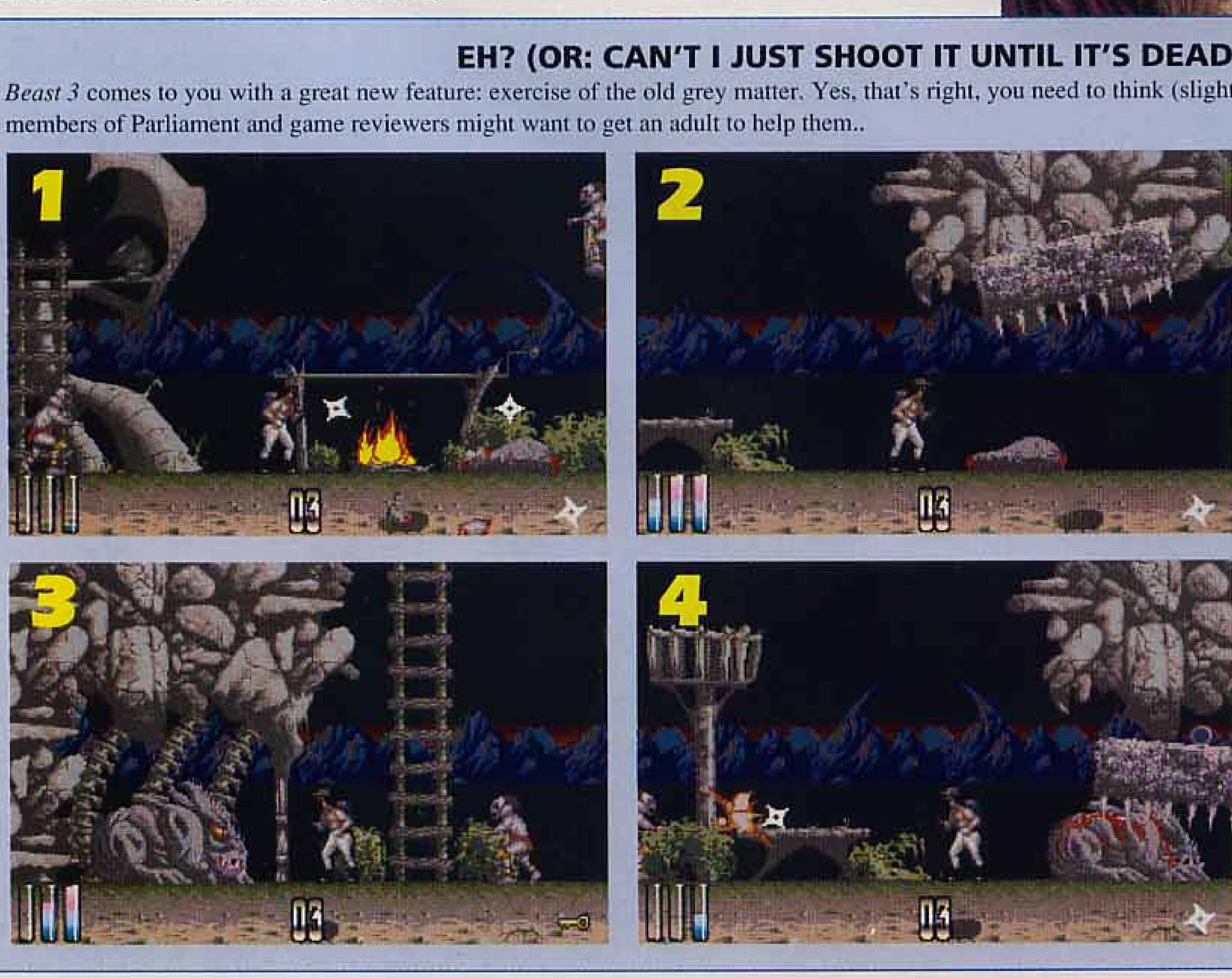
Let's not prejudge. First impressions aren't good; an intro that takes up an entire disk, takes forever to load and leaves you thinking 'yes... carry on... oh, that's it, is it?'. Whack in disk two, wait another five minutes and choose a level. Wait for the music to stop, wait for the level to load and you're finally into the game. It's all action so far. Sadly, you soon realise that the second, third, fourth and fifteenth impressions aren't really very good either. The words 'but it looks just like *Beast 1* and *2*' can not really fail to spring to mind as your little character bops along through the parallax scrolling (which *is* very nicely done) and gets knocked off at the first monster.



Half an hour later, when you've solved a few puzzles, been killed, waited for the load etc, you're unlikely to be thinking any differently, because it really does look very much

EH? (OR: CAN'T I JUST SHOOT IT UNTIL IT'S DEAD?)

Beast 3 comes to you with a great new feature: exercise of the old grey matter. Yes, that's right, you need to think (slightly) in between the mass slaughter. At this point members of Parliament and game reviewers might want to get an adult to help them..



1 Case in point. You come across this meat sizzling on a spit so, of course, as you would do with virtually everything else in the game, you shoot at it mindlessly for a bit until it falls off. Push it along the ground to the right and...

2 ...put it under this huge swinging spiky affair which you just happened to notice earlier (and also just happened to notice that it falls on you rather messily if you walk under it)...

3 ...nip back left (having noticed and picked up a key which was conveniently perched on a table) and use the key to open the cage with the dirty great monster in it. Jump up the ladder quickly when the monster emerges, all the while blasting away at the mutoid reprobates who keep on charging at you...

4 ...and follow the monster back to the meat, which it starts eating – only to be interrupted by the obnoxious swinging contraption falling on it and making it something of an ex-monster. And so the way is now clear for you. Oh good. That's one of the easier puzzles. How do you get past the weight puzzle? How do you use the floating table? What does it all mean?



Guess how you get past these balls. Is it an intricate series of traps and tricks? Do you perform a skilful backflip? No, of course not, you shoot the container they land on and walk past them.

Beast 3



If only life were like this: wheels with big arrows suggesting 'Turn'. Shall I push this button labelled 'Push'? Why not, George...



The inhabitants have a gorgeous way of falling to pieces when shot which recalls the great music-hall entertainers of just before the war.

like its predecessors. It plays a lot like them too: a scrolling platform shoot-em-up with puzzle-ettes here and there to get in your way. Keys and locked doors figure heavily in the puzzles, as do levers and traps, so most of them are just a matter of searching about enough to find the right object for the job. What's annoying is that sometimes, when you first come across a puzzle, you can make a mistake that kills you outright and possibly ends the game. It's rather like those old text adventures that would kill you off at every opportunity in an attempt to make up for a lack of decent puzzles.

Can't be that bad, surely

So what are the game's good points? Its graphics. The animation of the main character isn't too wonderful, but the parallax – done, as the manual insists on saying, on a 'hardware multi-plexing playing field' – as if that means anything – makes up for it. The rest of the graphics are dark – oh, sorry, moody – and sometimes indistinct. This being the last game and all, it would have been nice to see something different and wonderful on the graphics front. Instead, while they're competently done, they're nowhere near magnificent.

Beast 3 is possibly a game you'd buy on a whim; one you'd regret buying ever after, but keep going back to for short periods to stop yourself feeling guilty. And that's be the only way to play it; the long waits between loads, the fairly monotonous gameplay and the occasional stupid deaths drive you batty after a while. If the Amiga is to stride manfully into 1993, it's really about time games like this stopped being the norm and turned into a nostalgic reminder of how they did things in the bad old days.

Ed Ricketts

Shadow of the Beast 3
Psygnosis ■ £29.99

- Like the previous two – parallax platforms, detailed graphics and lack of innovation.
- Graphics are its greatest strength.
- A good sample here and there, plus one or two not-too-annoying tunes.
- Daft puzzles that can kill you outright – definitely just not on.
- How many more running-jumping-shooting games can there be?

Verdict **58%**



A huge wave is set to upset the denizens of *Populous II*'s latest update.

Populous II: The Challenge Games

Electronic Arts ■ 1Mb required ■ £14.99

You can't keep a good idea down. Just look at *Star Wars*, at *Robocop*, and... oh... *Friday the 13th*. Luckily for us, the next instalment in the hugely successful *Populous* series has more in common with the quality of the former two films.

You play a mortal mongrel – the son of Zeus and some poor female mortal who was deflowered by the dirty deity. Rightfully, you feel that you deserve a place on Mt Olympus. Zeus, however, doesn't agree. So, using *Populous II*'s original tools and tactics, you have to fight 32 other gods in 1,000 worlds to prove him wrong. Each game has fewer objectives than *Populous II* games; like a quick rescue, or a one-off battle with a preset population.

For those who have already played *Populous II*, this latest outing is a treat. For newcomers to the genre, it's worth a go. A follow-up that adds to the fun offered by the original.

Tim Smith

Verdict **80%**



A baseball-belting bunny adds a new twist to the *Breakout* genre.

Bunny Bricks

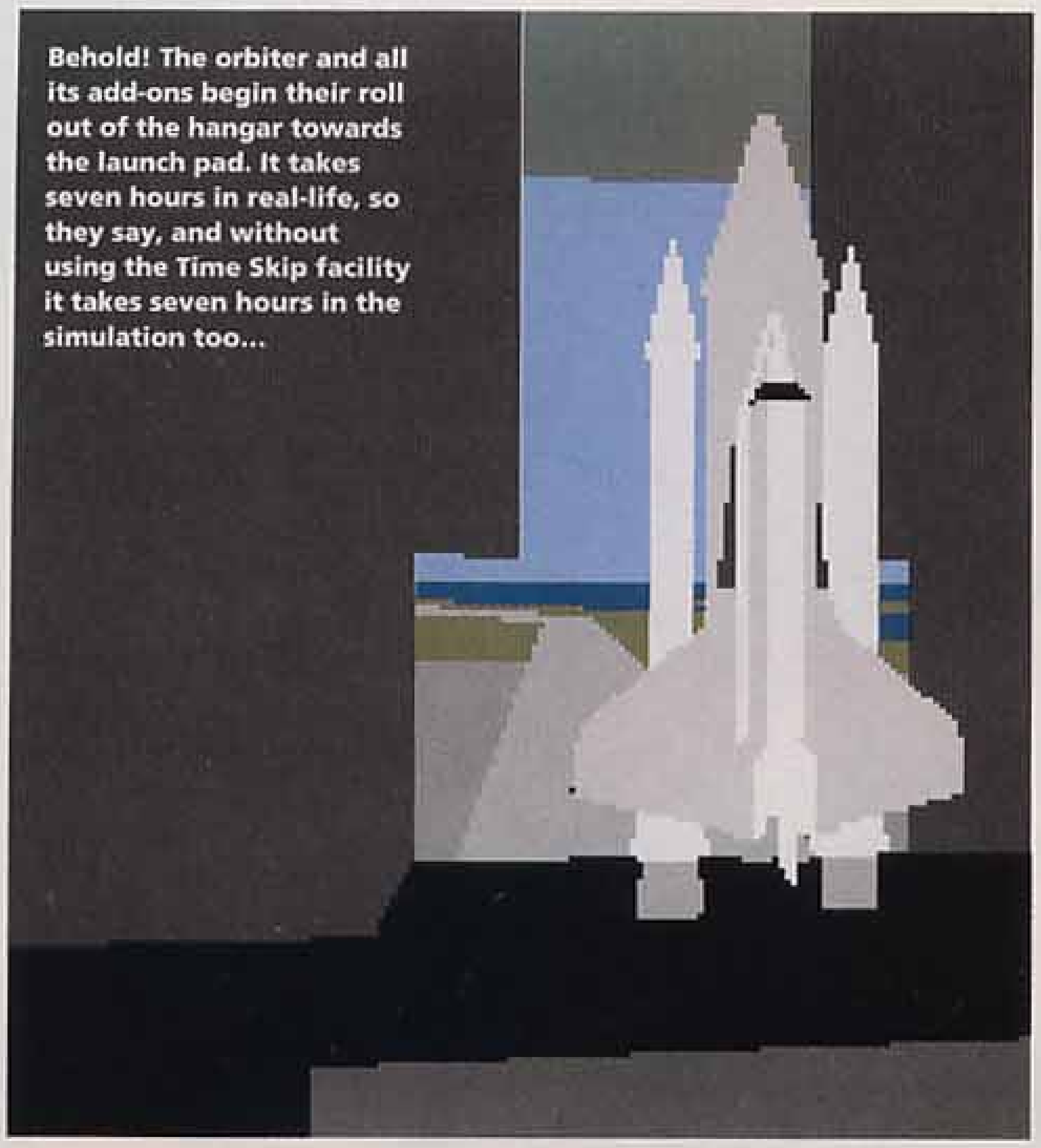
Silmarils ■ £25.99

This rather oddly titled game is based around the old classic *Arkanoid*, itself a variation on *Breakout*, but features much better graphics. The twist is that instead of shifting a paddle from side to side to bounce the puck towards the bricks, you control a baseball-playing bunny that clubs a ball around the screen to destroy stacks of bricks. Bunny the rabbit has an extensive repertoire of moves, including left and right dives and power shots. There's also a variety of special items that float down out of the destroyed bricks – machine guns, multiple bats and power-ups for super smash shots.

The game is very colourful, especially the well-drawn backgrounds. The animation is good and the cartoon style works well. It's all very addictive, much like most games of this genre, and the sound makes it enjoyable. It's not all that original a concept, but who needs originality when there's this much fun on offer. If you haven't got *Arkanoid*, or *Breakout* for that matter, but want something along the same lines, *Bunny Bricks* is for you.

Matthew Fyles

Verdict **78%**



Behold! The orbiter and all its add-ons begin their roll out of the hangar towards the launch pad. It takes seven hours in real-life, so they say, and without using the Time Skip facility it takes seven hours in the simulation too...

Shuttle

For all you tech-heads out there who enjoy a challenge, Virgin have come up with the ultimate in technical simulations, *Shuttle*. Offering you the chance to follow the developments of the amazing NASA spacecraft from its first launch in 1981, *Shuttle* is incredibly involved and requires a serious amount of commitment on your part to get anything in return.

Since the early days of computer flight simulations, the genre has been dominated by games with over-technical controls which are difficult to follow. This usually limited the gameplay, and meant that only those who had plenty of time and patience could play. SubLogic's *Flight Simulator 2* and HiSoft's *Proflight* are good examples of games that are playable but only when you have spent far too long learning the controls.

With *Shuttle*, instead of the usual complicated display panel underneath the main view, you have – get this – 26 different control panels, each larger than the monitor screen, so they must be scrolled around. Fortunately a large printed map of the controls comes with the game and, despite its bewildering appearance, it does actually prove useful.

Also in the package are two manuals: one is a small pamphlet that briefs you on your missions, while the other is a 144-page jobby which tells you almost everything you need to know about flying a NASA Shuttle.

Whoops, did I say 'almost'? Well, the fact is that although the main manual is quite informative, covering all the controls, function keys and technical aspects, it doesn't really convey the information most necessary – how to actually pilot the damned thing!

The manuals are very wordy too, with lots of jargon-based phrases that have you searching frantically through the pages for an explanation. For example, what does 'OPS 106 PRO' mean? Or 'ITEM 27 EXEC'? The manual tells you to type such codes fairly often, but finding out what they mean becomes very tedious. The simple addition of a glossary would have saved a lot of trouble. Also, the manuals are littered with spelling errors – 'breaks' instead of 'brakes', 'axis' instead of 'axes', that sort of thing.



Having escaped the Earth's atmosphere and now rid of its rocket boosters, the orbiter jettisons the main fuel tank. Upside-down is the way to do it, otherwise known as going 'belly up'.



A section of the main control panel. It looks a bit of a nightmare at first, but fortunately the computer takes you around the knobs and switches and explains things for you.

Stuck in gear

To compound it all, just as you're about to land the Orbiter, the Mission Guide tells you to press Alt-G to drop the landing gear, whereas the correct command is Ctrl-G. This serves to add to the frustration.

To be fair, the Mission Guide has a good crack at explaining the details of most of the missions, but it doesn't explain the first in anywhere near enough depth. OK, so the first mission might be fairly easy compared with the others, but it does involve landing – a task that many consider to be the most difficult part of flight simulation.

The authors have ensured that the first mission must be completed before moving on to any others. This is understandable, because the main feature of the real-life shuttle is the fact that it's reusable. Basically, if you can't land it, you can't complete any of the missions. Old hands at flight sims should be just fine, but newcomers will get frustrated.

One giant step...

On the plus side, the graphics are very nice, with all the action displayed via filled 3D polygons. The screen update is not too slow even on a bog-standard A600, so you do get a good response from the movement controls when you actually have the thing in the air.

Most of the commands from the main control panel have equivalent keyboard shortcuts. For instance, the function keys are used to change the viewing angle, while the Control key is used in conjunction with various letter keys to operate parts of the shuttle such as the remote manipulator (the big robot arm thing) and the speed brakes.

When you think of the time scales involved with sending a shuttle up, and you consider that *Shuttle* runs almost in real-time, the Time Skip feature becomes very important. This enables you to skip through the bits where nothing happens, to the next set of instructions from Mission Control.

Ten missions are included and follow the history of the Shuttle flights in great detail, ranging from the first test flight and landing to the launching of the Hubble telescope. The attention to detail is so great that the simulated Hubble is damaged in the same way as the real thing, so the next mission is to go and repair it.

Shuttle is the most involved and complicated simulation I've ever played. Just to describe its controls would take a number of pages, never mind the numerous missions and semi-cryptic messages from Mission Control. It's indescribably huge.

If you're an avid NASA follower, then *Shuttle* is something you should have. If you're a flight-sim addict, and feel at home with *ProFlight*, then this will probably suit you down to the ground. If you're a sometime flight simulation player, who doesn't like getting bogged down with complicated controls, then keep well away or you just might find yourself sending your Amiga into orbit.

Andy Nuttall

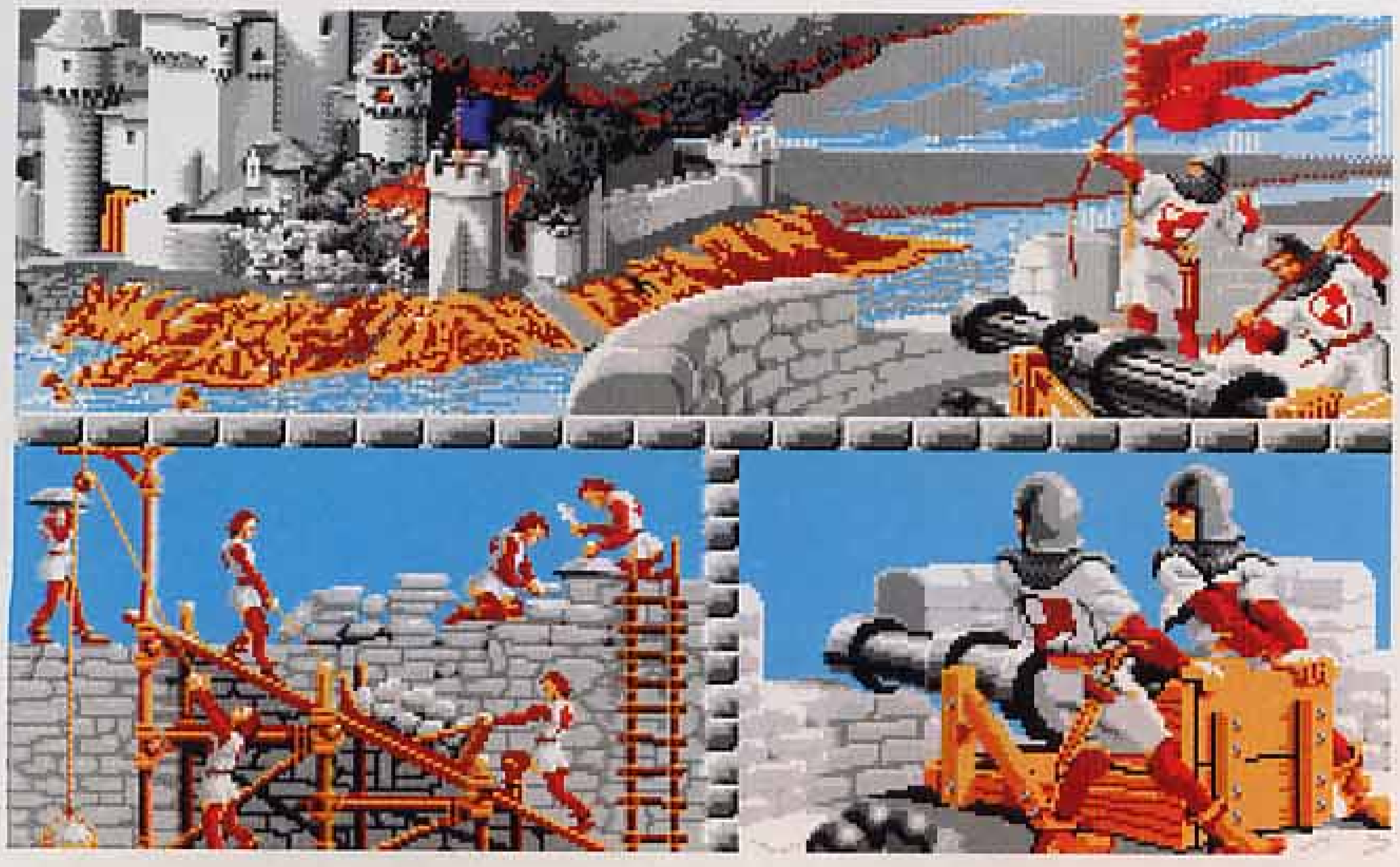
Shuttle
Virgin Games ■ £29.99

- Difficult, but when you successfully complete a mission it can be rewarding.
- Good graphics, reasonable sound effects, appalling music.
- Manuals give plenty of information about the shuttle, but not enough about the game.
- More controls than your average space shuttle. Wait a minute, that's not right...
- If you can play this simulation well, apply to NASA for a job immediately.

Amiga Format Verdict **70%**



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On the left is one of the intro screens that explains the principles behind *Rampart* very nicely indeed. The guys on the top are happily blowing up the castle opposite only to discover (60 short seconds later) that the folk in the castle opposite were equally hell bent on destruction. It's now a race to see who can rebuild their castle walls first...



After a frantic rebuilding session, a territory bonus and some extra cannon are awarded depending on the size of the fortification.

Rampart

Cult (in other words, it didn't make much money, but those who played it loved it) Tengen coin-op *Rampart* is one of many games based on *Tetris* with a few elements added in an attempt to create something entirely new. Most attempts at such video game Frankensteinery end in mediocrity: a beaten-up Ford Escort will always be a beaten-up Ford Escort no matter how many bits are bolted on or how wide the wheels are.

But when you're working from as solid a base as *Tetris*, it's difficult to go wrong – and Tengen didn't. Adding guns, battleships and a ruthlessly unforgiving two-player mode, they created a new game that stands up proudly.



Mid-battle and cannonballs fly thicker than a very thick thing. And the score is ships 3, castle 1 – better call a gang of stonemasons sharpish.

Read all abaht it

So what's it all about then? Well, you're in charge of an army's fortifications and you have an enemy – in one-player mode the enemy is your Amiga and in two-player mode it's a buddy.

The game screen is a plan view of your castle keep, the walls surrounding it and more keeps set along a stretch of coast. Out on the water, a small armada polishes its cannon and waits. There are three phases to each round of the game, the first of which is cannon placement. At the start of each round you are allocated a number of cannon to place within your castle walls: the number you are allocated depends on how well you did in the previous round, but normally it's one, two or three. If you don't have enough space to place your allotted cannon, tough.

Phase two is the fun bit. This is where all hell breaks loose and for one glorious minute you get to guide a targeting cursor around the screen with a view to hammering the hell out of the enemy ships with all your cannon. The idea is to simply destroy all the computer's ships, plus any troops that may come ashore to disrupt phase three: putting right the damage done by enemy cannon and creating more space for your own firepower. This is where the *Tetris* element appears.

A series of multi-shaped blocks appear on screen. You rotate them, position them and then drop them in an effort to replace those sections of wall destroyed by your opponent. You don't actually have to exactly copy your original battlements, but merely make sure that there is no break in your keep's surrounds. If you don't complete all your repairs in the time limit then you lose a life. If you succeed you can use any remaining seconds to attempt expanding your castle walls to encompass a larger area for extra cannon placement.

In two-player mode you blow hell out of the walls of a friend's castle; a friend similarly engaged in trying to build as large a fortification as possible while blowing yours up.

When the dust settles

And that's it, really – the attrition continues until all lives are lost. Doesn't sound much does it? Well, for the time the novelty lasts *Rampart* makes a fast, frantic and highly addictive two-player game.

There are only three niggles: one-player mode is largely dull (just use it as training for two-player battles); second, once one player gets the advantage in a two-player game it's practically impossible for the other player to turn the tables; and third, the game is over just too quickly – there could have been more levels, maybe the chance to upgrade to different weapons, or even a deeper strategic bent to it.

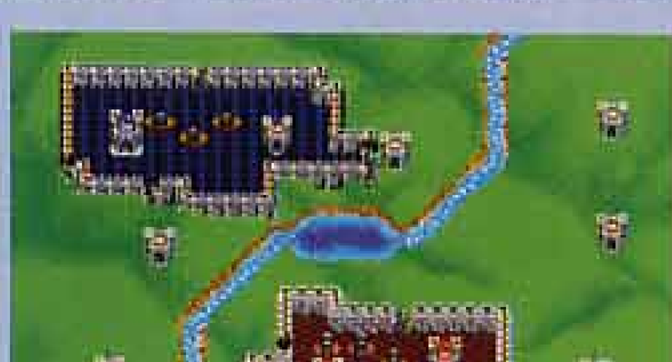
But *Rampart* certainly isn't a bad game. It's worth investigating for a spot of two-player, *Tetris*-inspired fun.

Neil West

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Step 2: it's time to start blowing the cement out of each other. Each player guides a cross-hair which targets the cannon. Cause as much damage as you can



Step 3: the tough bit. Now you have to twist, turn and move the computer-generated shapes in a bid to rebuild your castle walls. If you don't make it, you lose a life.

Rampart
Domark ■ £25.99

- Looks fine and sounds OK – a very good coin-op conversion.
- Fast and furious two-player fun.
- Fiddly (hence frustrating, considering the time limit) control method, particularly if playing with a joystick.
- A limited game size – the action's over far too quickly.
- Too repetitive for classic status.

AMIGA FORMAT Verdict **75%**

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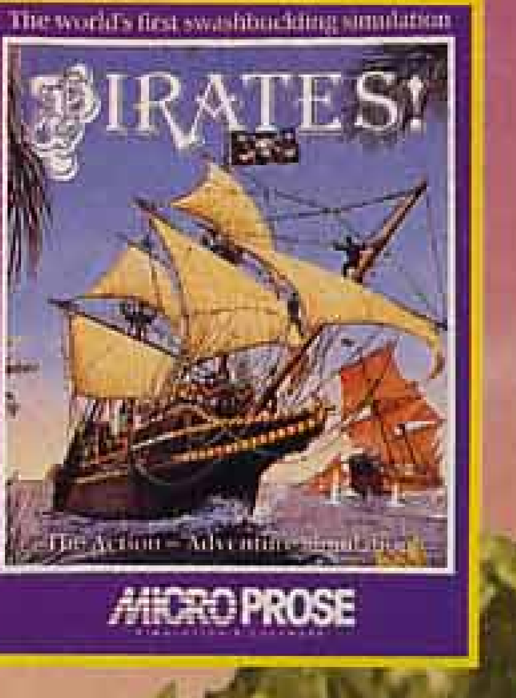


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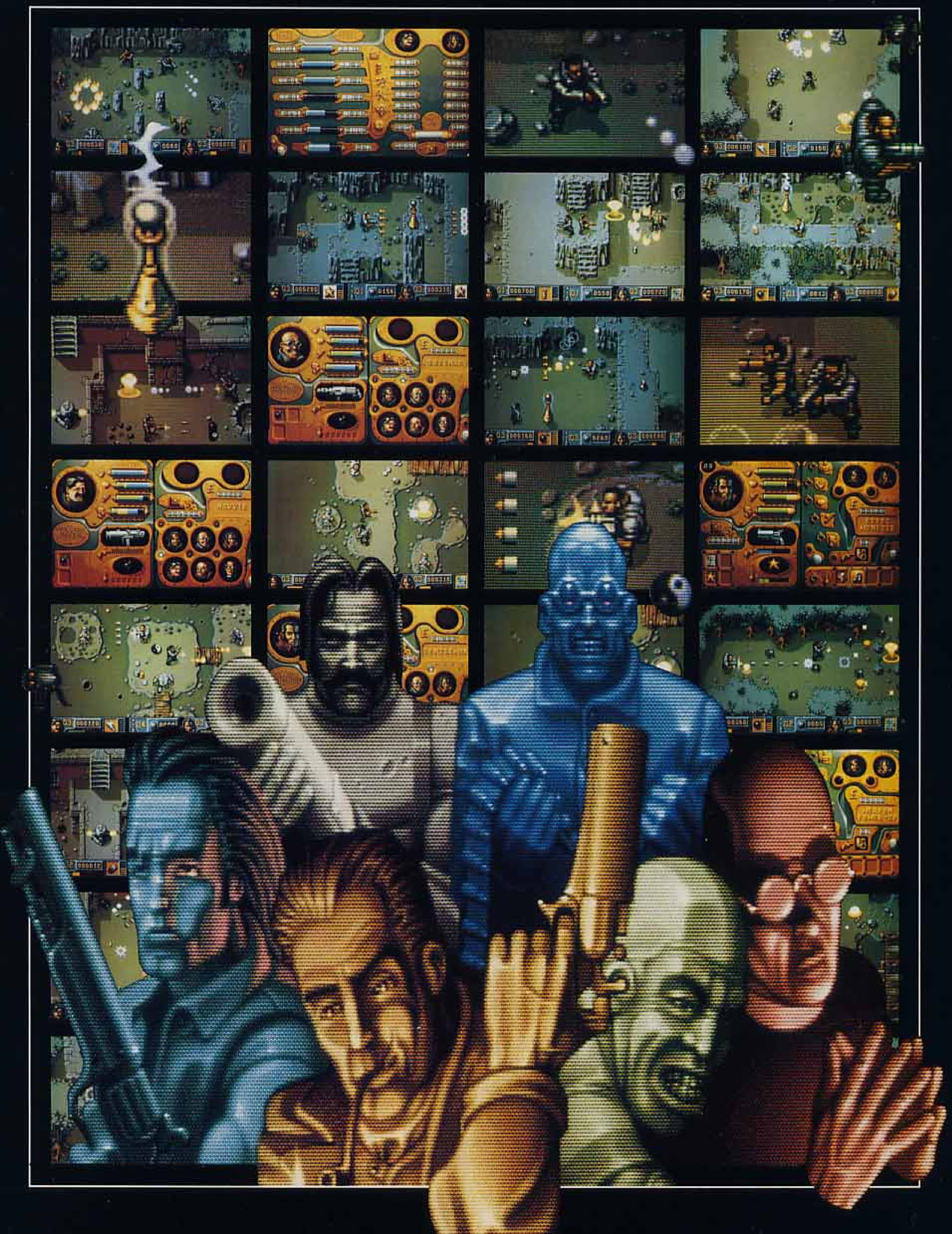
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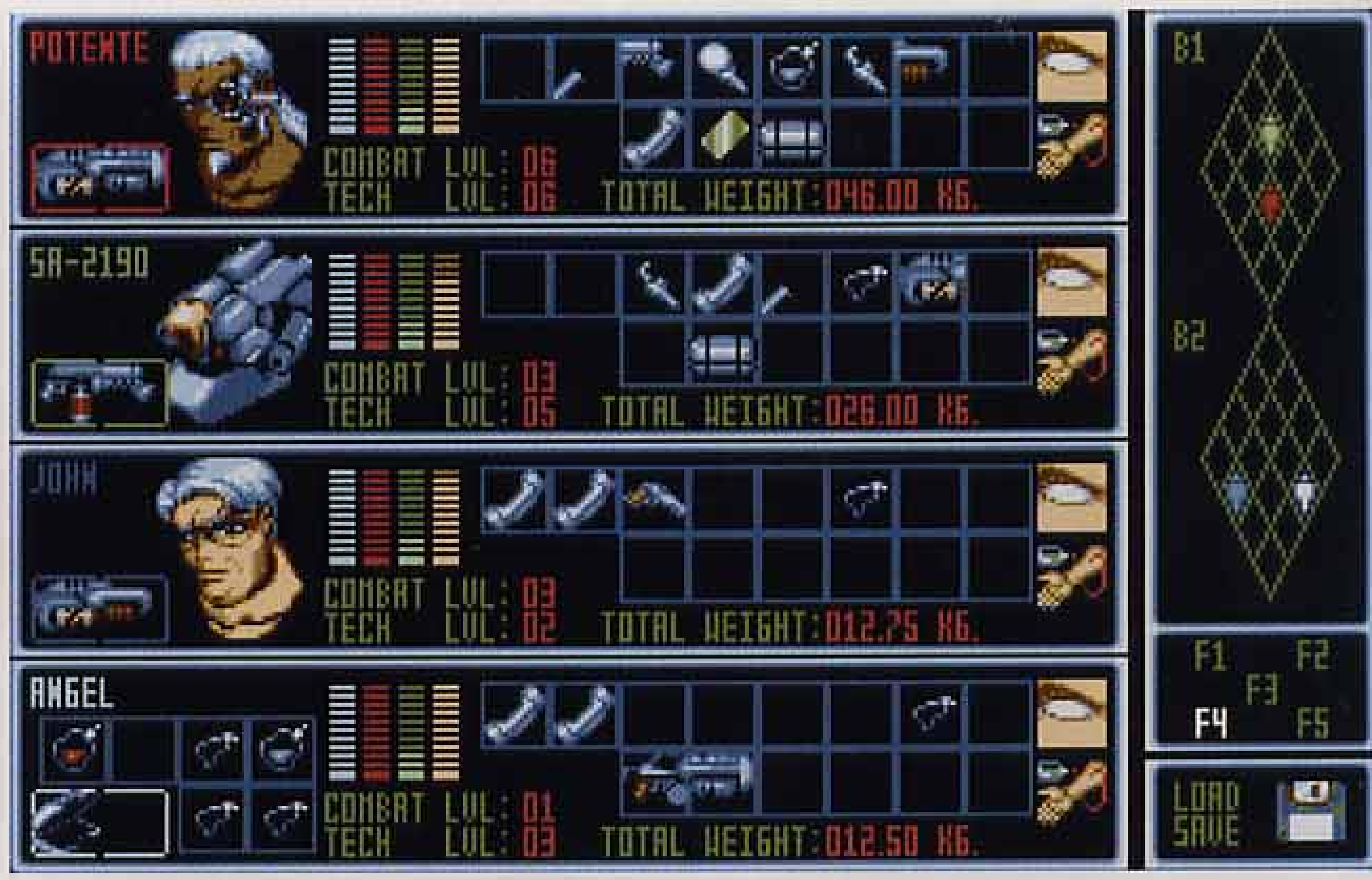
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MerlinExpress Directions

Teque's space-bound sequel to the fantasy role-playing bonanza *Shadowlands* has arrived, and this time no-one can hear you scream.



Six months ago we were all impressed by *Shadowlands*, the clever light-tracing isometric game set in a fantasy world of clerics, fighters and thieves. A strange mix of puzzles and role-play, it was heaps of fun. Now the same programmers, Teque, take us into a future world where things look just as bright, but a lot more dangerous.



There's a vital difference between *Shadoworlds'* inventory screen and the one in *Shadowlands*: you can mix and match any gun pieces you find to make a variety of deadly weapons.

Shadoworlds

One of our labs is missing

This is *Shadoworlds*. In the aftermath of a cataclysmic galactic war which has forced man to see the error of his ways and relinquish violence forever, there's still one weapons research space-station at the edge of the galaxy, but you've suddenly lost contact.

So now it's up to you and your hand-picked team of hard guys and gals to infiltrate the bases of the station's planetary system; to beam from one world to the next and find out what has happened. On going through the front door of your first port of call you find out that a bunch of villainous androids and aliens are guarding the premises.

And so into action with your select troop of space warriors, where we find one or two things have changed during the passage of time from the fantastical past to the far future. The ability to split your party into however many pieces you want still makes the *Shadow* series one of the most flexible fantasy role-playing systems around, but *Shadoworlds* differs from its predecessor in a number of significant ways. First, ardent fans of *Shadowlands* will be outraged when they boot up only to discover that controlling the team just ain't what it used to be. Gone are the separate character control icons; now there are four faces for selecting a party member and one 'human figure' icon whose anatomy controls all the characters' actions. This means that the party needs to be told what to do one at a time, which slows things down a helluva lot (particularly when it comes to combat).



Your team needs to possess a mixture of skills lest some of the obstacles become too difficult to pass later.

You will also find that it's now possible to display all four characters' inventories at once so you can easily exchange objects between them. It's still possible to scroll through each inventory from the main screen via a character's hands, though. The more compact inventory screen has been achieved cleverly, partly through the removal of food and water which are now replaced by simply the 'fluid level'. In true space-age fashion, our heroes pump themselves full of nutrients by directly injecting them into the blood stream – how jolly appetising.

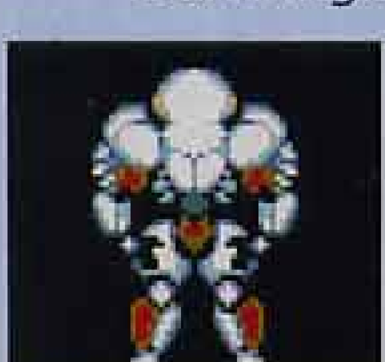
> “The whole game boasts an excellent quality of design”

Being resident in a future age, you now have the considerable advantage of automatic weaponry. Such high-tech firepower lends a new atmosphere to the Photoscape system as pyrotechnic dum-dum shells explode in a blossom of light against walls and, regrettably, people. Also, rifles and other instruments of destruction can be 'customised' to a certain extent by swapping their stocks or barrels around. This produces a wealth of new weaponry offering a wide range of destructive effects that can all be hurled against the enemy to good effect.

Instead of the character generator, which gave *Shadowlands* such flexibility, a number

ICON DO THAT

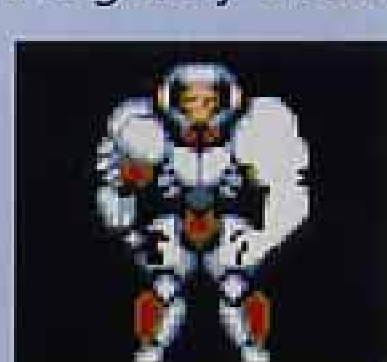
Surviving at the outer edge of the galaxy means knowing your icons, so here's a helpful guide to the main controls:



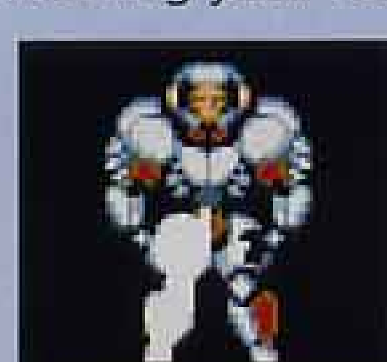
HEAD
Highlight and click on a flashing object in the game window in order to read it. Or hold down the mouse button to toggle your head-torch.



LEFT ARM
Utilises the object in your left hand or swings a punch if nothing is there. Highlight and click on the flashing object you want to manipulate.



RIGHT ARM
Operates switches and picks up items. Highlight and then click on the flashing object or switch in the game window that you want to take or operate.



LEFT LEG
Moves the character as part of designated team formation. Click on the character's destination and the team will move there in formation.



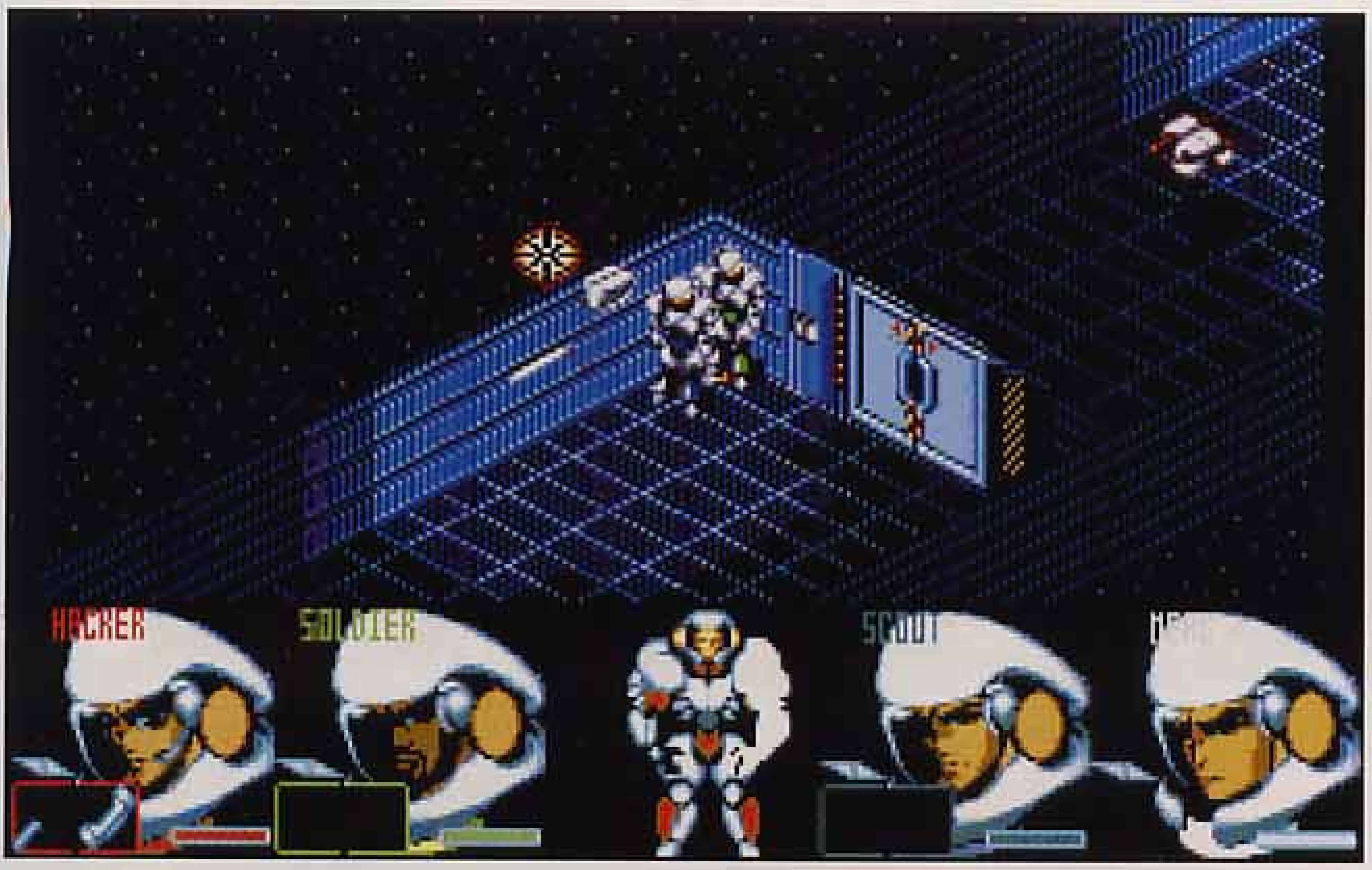
RIGHT LEG
Moves characters individually. Click on the character's destination and he or she will dutifully separate from the main party and go there alone.



SKULL
This icon tells you that the character is a little less than useful right now. That is to say, dead. And no-one even heard him scream – space, huh?

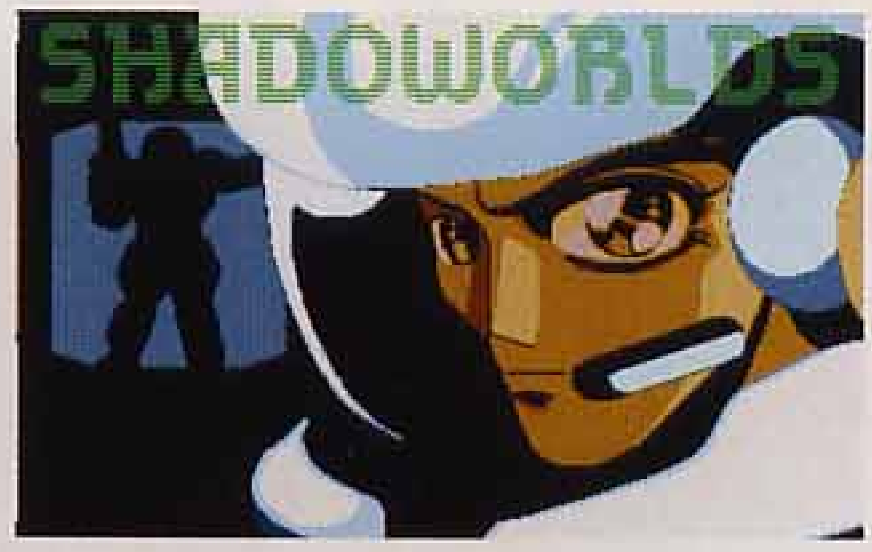


BACK OF HELMET
Faithful to the style of *Shadoworlds*, this volte-face view shows that the character has wandered off to do his own thing on another level.



In most cases, when you come to a door in the dark it's wise to check around for hidden switches or computer terminals. Opening doors blindly can lead to disaster if you're not properly prepared.


In the gloomy atmosphere of *Shadoworlds*, it's easy to get spooked by creatures in the dark.



Shadoworlds takes a Japanese approach to artwork, despite being of British origin.

of pre-generated recruits are available for drafting on to your team. Each has skill specialities and personality quirks, which does give your characters a little more personality of their own (some are rebellious while others can crack under the strain, for example). Just pray that the hard nut of your party doesn't sit in a corner eating rusks when the going gets really tough.

Artificial unintelligence

Rock-hard these gallant space warriors may be, intelligent they are not. They just don't seem to be able to negotiate things like small gaps or doorways when they're in formation, and quite frequently start blowing their friends away when you order them to fire – the American military, in suitably understated style, dub this kind of idiocy 'collateral damage'. However, the impressive graphical quality that gave *Shadowlands* such a good atmosphere remains gloriously intact.

The whole game boasts an excellent quality of design that is not only very functional, but is also a pleasure to behold. No detail has been forgotten, either within the game environment or in the information displays, which have changed from an ornate and mystical design befitting a fantasy world into one of futuristic simplicity. The title screen also has that 'wide-eyed' Japanese look to it which gives it a trendy *Akira* feel.

The Photoscape system adds a huge amount of realism, spilling torchlight through doorways as they open and flashing explosions across the walls when a shell makes contact. Shining a beam into dimly lit corners can even trip photodetectors (which open doors or activate teleports). Teque have done their utmost to incorporate Photoscape fully into the gameplay and have done so with great success.

Shadoworlds does for its predecessor what Bullfrog's *Populous 2* does for *Populous*: develops on a worthy theme without losing sight of the original's playability and feel. It has successfully continued the Photoscape system with a game of great depth and atmospheric quality, but does stumble slightly when it comes to the fluidity of gameplay and the realism of its characters.

A few little tweaks here and there would have brought the whole experience up to Format Gold quality, but even as it stands I shall still be playing *Shadoworlds* until the cows come home (or, at least, until the next better version).

Paul Tyrrell

Shadoworlds
Krisalis ■ £25.99

- There's a great deal of variety when it comes to terrain and the opposition, and it all takes place in a huge play area.
- Photoscape adds that special, extra bit of realism – all graphics maintain the *Shadowlands* example of very high quality and attention to detail.
- The spot effects are eerie and mysterious, but nothing remarkable; a bit like the title tune really.

Amiga Format Verdict **85%**



Yet more mayhem comes to the beleaguered world of Krynn.

The Dark Queen Of Krynn

US Gold/SSI ■ £32.99

Will Krynn ever be the same again, especially after the *Champions Of Krynn* followed by the *Death Knights of Krynn*, and now this, the final battle? You would think that any planet in the universe would have had enough after such an onslaught.

But no, there's more. In *Dark Queen* you take the form of your worst nightmare and fight creatures too gruesome to contemplate. I guess AD&D fans could use their computers to become even more unsociable creatures and replace reality with a conjured-up world based on magic, good and evil. Or they could use this game to demonstrate to themselves that there is more to life than surreality, because *Dark Queen* is not too hot.

My advice would be to stick to using your Amiga for something much more interesting and original like *Eye Of The Beholder*, a game that is a real computer game, not just a dice game translated on to an Amiga.

Amiga Format Verdict **49%**

Asam Ahmad



Paper-and-dice fantasy once again limps on to the small screen.

Treasures Of The Savage Frontier

US Gold/SSI ■ £32.99

It never rains, but it pours. Yes, *Treasures of the Savage Frontier* is another fantasy role-playing epic sporting the usual assortment of monsters, magic, swords, sorcery and the like.

The problem with it is that it's not designed to be played on a computer; it's a role-playing game that has been automated. *Treasures* makes hardly any use of the Amiga itself, but is just a fantasy game that doesn't rely on the use of a pen and paper. In fact you have to refer to the guide so much for details on characters and quotes that the game may as well have remained a paper-and-dice effort.

I must say that the presentation of the package is very good, with good clear rule books and journals – the handbooks that form the basis of the game. It's sad to see that these games have been created as an alternative for fantasy freaks to play against computer-generated characters instead of playing their fellow fantasy friends. Stick to the dice versions.

Amiga Format Verdict **49%**

Asam Ahmad

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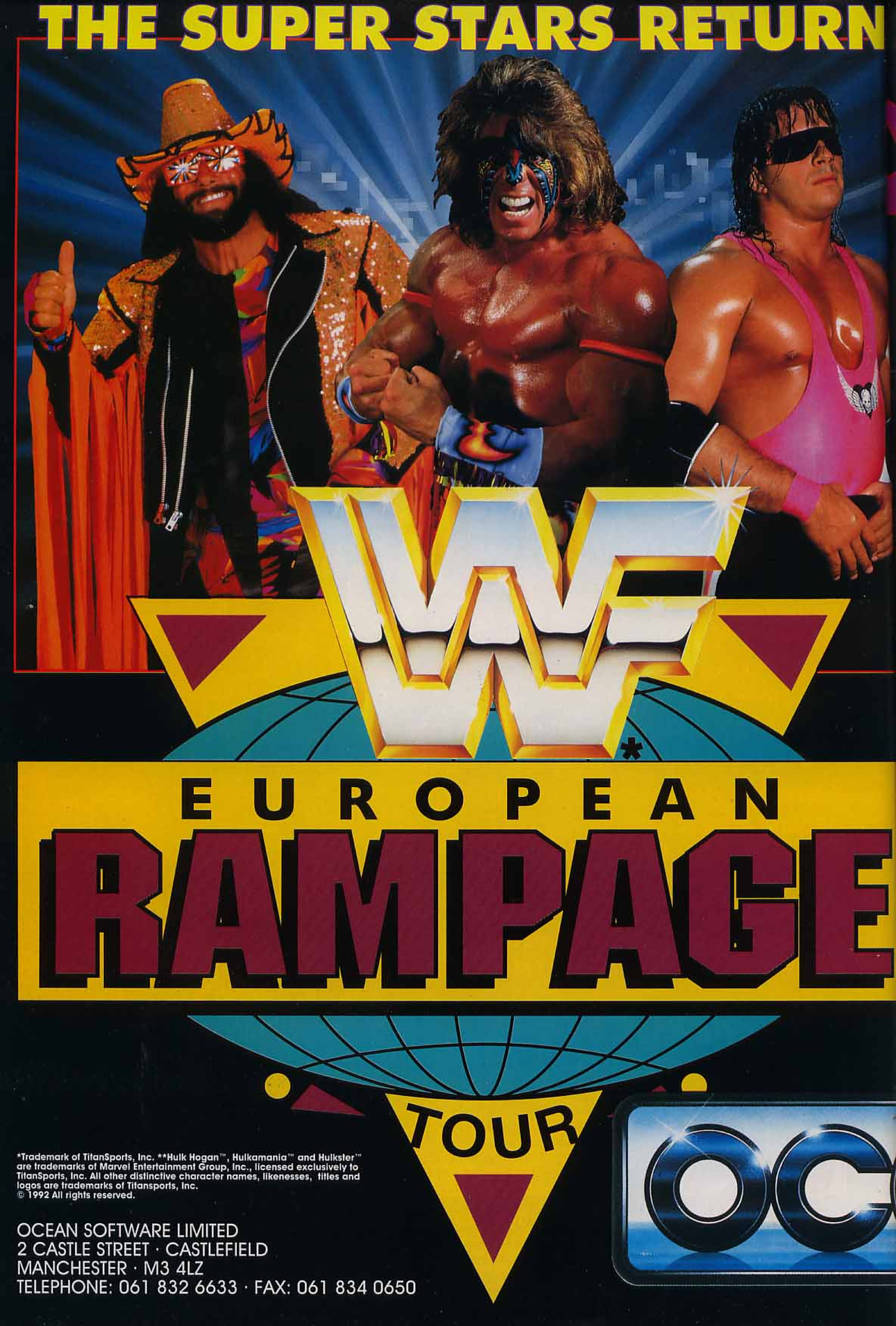
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DOMARK

Designed and Programmed by Incentive Software
 IBM PC Screenshots
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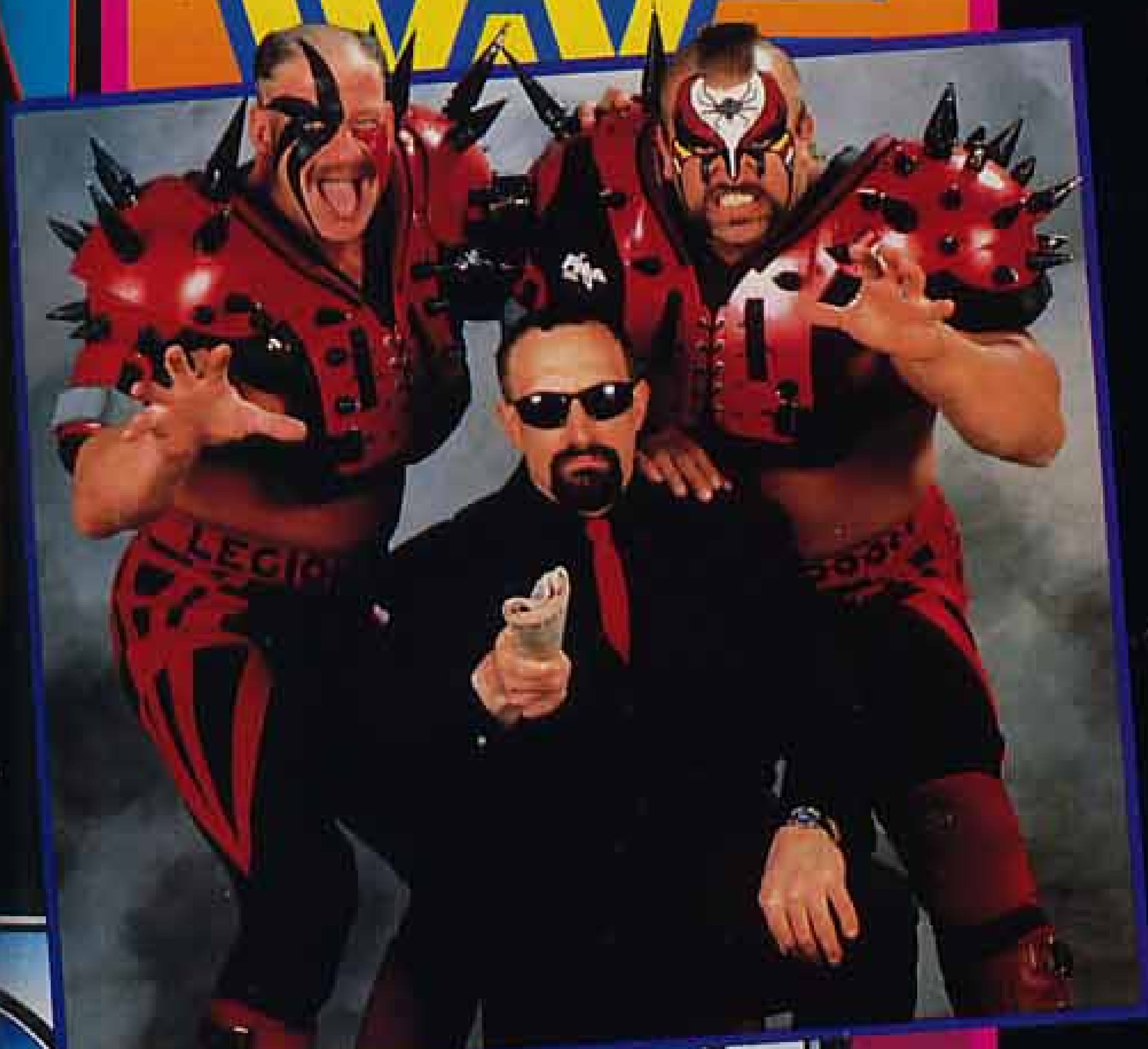
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It was at this precise moment in time that Joey realised the full implications of the government's public-information advert: "Remember to lay back and ride wide."



All mouth and no trousers this Biff bloke. He's always near the front, but he's a total gimpoid.



The 300-mile motorbike relay never quite made it to the Olympics, due to misuse of the batons.

Road Rash

Much like motorcycle riding itself, motorcycle games have always been a bit hit or miss on the Amiga, and none more so than Electronic Arts' bizarre new racing beat-em-up, *Road Rash*. Mile upon mile of open road, plenty of fast, furious motorbiking action, and a liberal dose of unnecessary violence thrown in for good measure. But how do you mix aggression with the reflex-honing activities you normally associate with racing games? Simple. Here you get the chance to punch and kick your biker opponents off the road, into trees, or worse, into the path of oncoming traffic.

To be this good...

After wowing an audience of console owners, *Road Rash* revs on to the Amiga scene, hoping to do the same to us. But if EA think Amiga owners are as easily pleased as the console kids, they're way off. Let's face it, these guys are impressed by two-inch screens and squeaks for sound effects. It's a lot harder to sway people who expect full-screen action and hyper-sonic sounds – ie people who use Amigas.

It can't be denied that *Road Rash* is good fun, even if it is just a converted console game. Graphically, it's not as good as the three-year-old *Super HangOn*, although it's possibly just a touch faster. In the sound department, it's as bad as *Super HangOn*, and there's no excuse for that. But where *Road Rash* really does score is in its gameplay. It's just all-out thrash fun, right from the start, right to the finish. Although you might not initially be tempted to pick up your joystick and go for a burn, once you do, you'll find it difficult to stop. And it's got nothing to do with poor brakes.



Road Rash is a pretty simple racing challenge. There are five levels of race difficulty, with the length of track or the number of twisting turns and cross-roads being the main variations. At each level there are five separate courses, each with its own scenery,



Think once, think twice, think don't leave your bike in the road while you nip off for a nap.

HOW TO AVOID A NASTY RASH THE FIRST TIME YOU GET A LEG OVER...

Once the flag drops, there isn't time to mess about, so here's a guide to what's on a Road Rasher's handlebars.

STAMINA METER
Tells you how many more beatings you can take. If your opponents really bruise you up, this meter goes red and shrinks drastically. If it runs out, you're out of the race.

DAMAGE METER
Shows how badly damaged your bike is. Each time you fall off, you crunch a bit of your bike until eventually it won't work.

OPPONENT'S STAMINA
The weaker he is, the quicker he will fall. Use this to tell you whether it's worth staying for a punch-up.

NEAREST OPPONENT
They could be behind or in front of you, but at least you know who they are, and maybe how they'll react.



SPEEDO
Woss this? Three guesses...

ODOMETER
Each race is a set distance. See how far you are from the finish before wasting time in a brawl.

TACHOMETER
Some bikes are much better than others at revving up. Use this to see how good yours is.

RACE TIME
Not a lot of use, other than to tell how long you've been on the road.

RACE POSITION
The vital indicator. You want to reach the finish line in the top four, or you'll have to race this track again.

MIRRORS
Behind you! Check out for things creeping up on your tail. See which side they're about to overtake on.







"Nyyyyyaaaah! Leggo me flippin' hat! I can't see where I'm going, you great tart."













There's really no need for such wanton disrespect to the gentleman of the law. He's only doing his job, albeit with the vigour and zest that he'd normally reserve for arresting a war criminal.



If you should happen to hit a car at a crossroads and forget what to do, here's the basic procedure: fold your handlebars neatly into your lap, leap 30 feet into the air, and lie down screaming.

roadside objects and obstacles. You have to race on each course and finish in the top four on each one in order to make it to the next difficulty level. A system of rather long-winded post-race passwords enables you to leave or enter a specific race when you feel like it, without needing a save-game disk.

Ultimate ride?

You control your bike and rider with a joystick, using one of two available control modes. The important difference is the way you handle the punching and kicking of opponents – one uses the fire-button, the other uses the position of the joystick. Mastery of the high-speed attack is vital because your objective is to unseat the opposition by booting them off backwards or punching them in the helmet. Each opponent has his or her own characteristics which affects their relationship with you. If you act aggressively to one character, the chances are pretty high that they will retaliate. But if you merely dodge them, and whiz by on the outside without clashing, they

“ This is going to annoy everyone from the road-safety crew to the Mary Whitehouse brigade ”

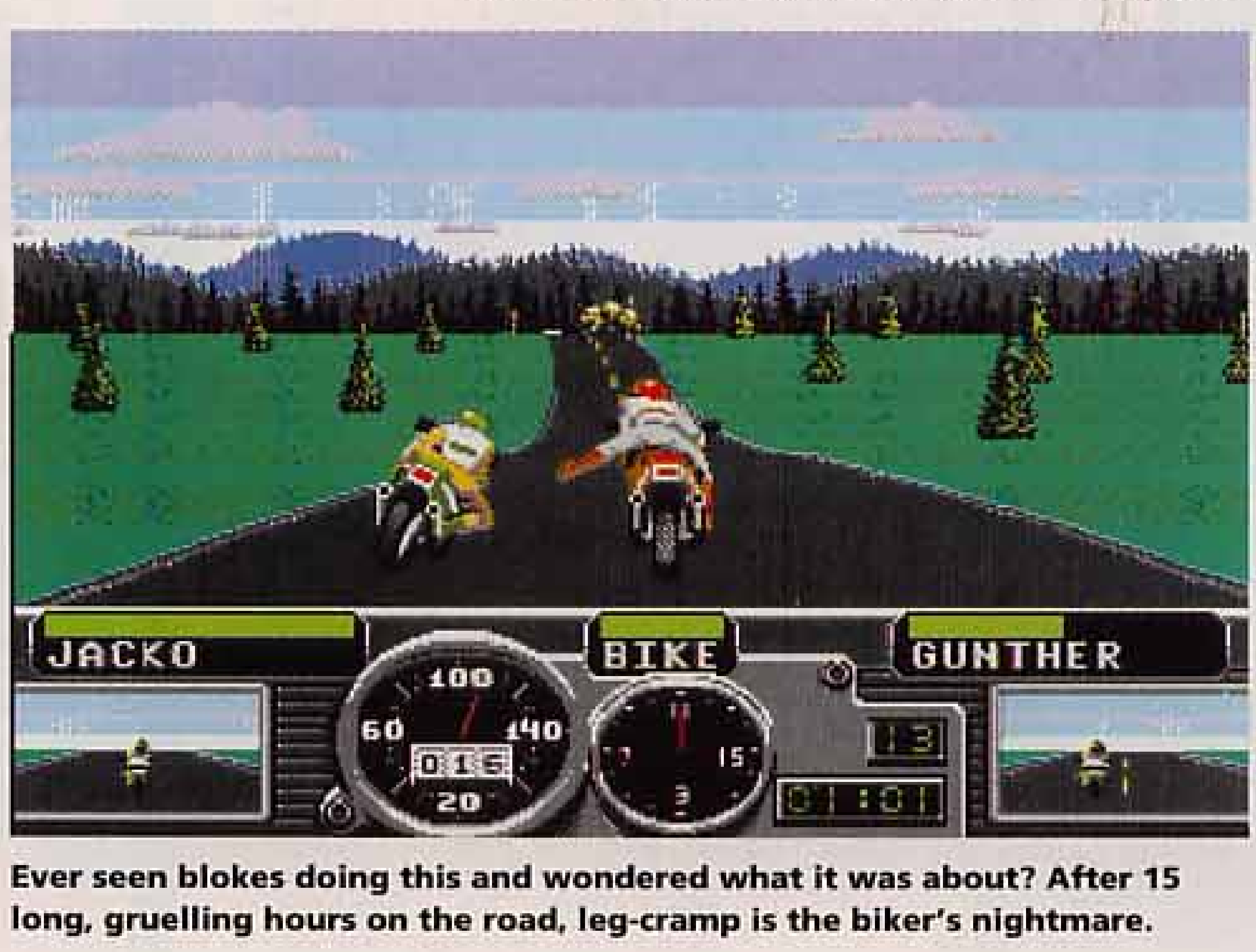
may offer you tips or information at the start of the next race.

Winning races means cash in the bank, and the more you have the more you can spend. And spend you will, on important things like a newer, faster bike, or less important things like fines (incurred not for punching policemen off their bikes, but for getting caught afterwards). You also need cash to repair your bike when you damage it, and that's very likely to happen considering the way you and your racing cronies hurtle around blind bends at 140 mph. Death wish or what?

And that's basically all there is to it. *Road Rash* is a blast, but it's not as good as all the hype suggests. Initial reactions are not always the right ones, and in this case it has to be said that it plays a lot better than it looks and sounds. After a few races (when you've invested a bit of time and tired out your joystick hand) it's very easy to get drawn into the game. The sheer mindlessness of the violence nearly makes it a classic. It's just so rewarding to get away with behaviour that would generally get you killed or nicked if you were to try it for real. Your psychopathic tendencies can be lived out to the full without danger of harming yourself or anyone else, but it still feels like you've been there and done it before.

Road Rash is going to annoy everyone from the police road-safety crew to the Mary Whitehouse anti-violence brigade – and quite rightly so. After all, if people *didn't* get wound up about mindless, inconsequential things like computer games, then they wouldn't be half as interesting to play, would they? Although their fears are real to them, they're not nearly as heightened as the fear you'll have when you find yourself flying over the crest of a hill at a ton plus, with only a passing Volvo to break your fall. If you can get excitement like that on your Amiga, who needs to try it for real?

Neil Jackson



Ever seen blokes doing this and wondered what it was about? After 15 long, gruelling hours on the road, leg-cramp is the biker's nightmare.

Road Rash
Electronic Arts ■ £29.99

- A bit lacklustre to begin with, but you soon get addicted to *Road Rash*'s action.
- More fun than you could have skating down a mountain in slippers (believe us, we've tried it).
- It'll get your mum ringing up the papers complaining about violence.
- Sounds like a kazoo, looks like a moped on an 8-bit, but brilliant fun all the same.

Amiga Format Verdict **84%**



At last, the finishing line is in sight. But I'm in last place and it's only a practice lap anyway. Humph.

No Second Prize



A helicopter swoops low over the leading bike relaying pictures to the viewing masses. But at the rate I'm going, I'll never get on telly.

Things seem to be hotting up of late for the two-wheel ton-up merchant. It seems like only yesterday we were wrestling with the realistic but terminally twitchy *Red Zone* from Psygnosis, while in this very issue we're kick boxing in EA's decidedly violent *Road Rash*.

Thus Thalion's *No Second Prize* emerges from the paddock with plenty of competition already on the grid. *NSP* is a fast-paced thrash around the world's most famous motorcycle circuits in pursuit of first prize (remember, there's no second one) – that only prize being not a Championship First, but for the ownership of the Sexiest Motorcycle in the World.

Some anonymous dude has fronted up this unique machine in the hope of attracting six monied privateers to duel their way through a 26-race season taking in such exotic locations as the Paul Ricard, Hockenheim and Oulton Park circuits.

Totally unreal

As such, we're not looking at a terribly realistic outing along the lines of *Team Suzuki*. Although the view from the saddle, the filled polygons and the accurate tracks are reminiscent of GBH's offering, *NSP* is more of a throttle-to-the-stop thrash and aimed more at the speed freak than the Grand Prix buff. Unusually for a motorcycle game, you get to choose more than just the colour of the bike you ride. Each of the six competitors has certain attributes, such as impressive top-end speed, or brilliance at corners or, for the more ham-fisted, the ability to take the knocks when thwapped full-tilt into the nearest tree.



Another rider is set to be overtaken, but the circuit map on the left shows there's still a way to go to catch the leader.

Having chosen whichever rider suits your riding style, it's off to practise on any of the 20 tracks before the first race of the season. It soon becomes clear that the bike, while not all that easy to control, behaves much more sensibly than *Team Suzuki*'s Suzis. Where a mere twitch of the mouse would have you veering wildly off course and into Mamola-ville in *TS*, the action in *NSP* is far more controllable, while still keeping up a fair old clip.

It's a mouse-only affair, which is fine by me, and merely requires holding down the right button to accelerate and the left to brake. Unless you want to be flash and use the manual gear change mode, which means keeping a hand hovering over the Amiga's keyboard.

Once into the races proper, things get a little more disturbing. Getting round Silverstone is job enough, but someone has taken the trouble to scatter bollards at some very inconvenient points around the track. Hit one and you'll damage the bike (which has a limited tolerance that ticks away until you stop for good) and lose places.

There also seems to be a fair number of riders who apparently spring up from nowhere. You can see the pack you're meant to be leading highlighted on a small circuit map, but other riders abound, creating mobile chicanes that add to the overall mayhem.

A bit backwards

It was after an encounter with one of these amateur riders that I found out you could do something totally brilliant: ride round the track the wrong way! I've always wanted to do this, but many racing games simply won't let you. Howling head-on for the leaders at a closing speed of around 400mph is great fun when you've given up on ever winning the race.

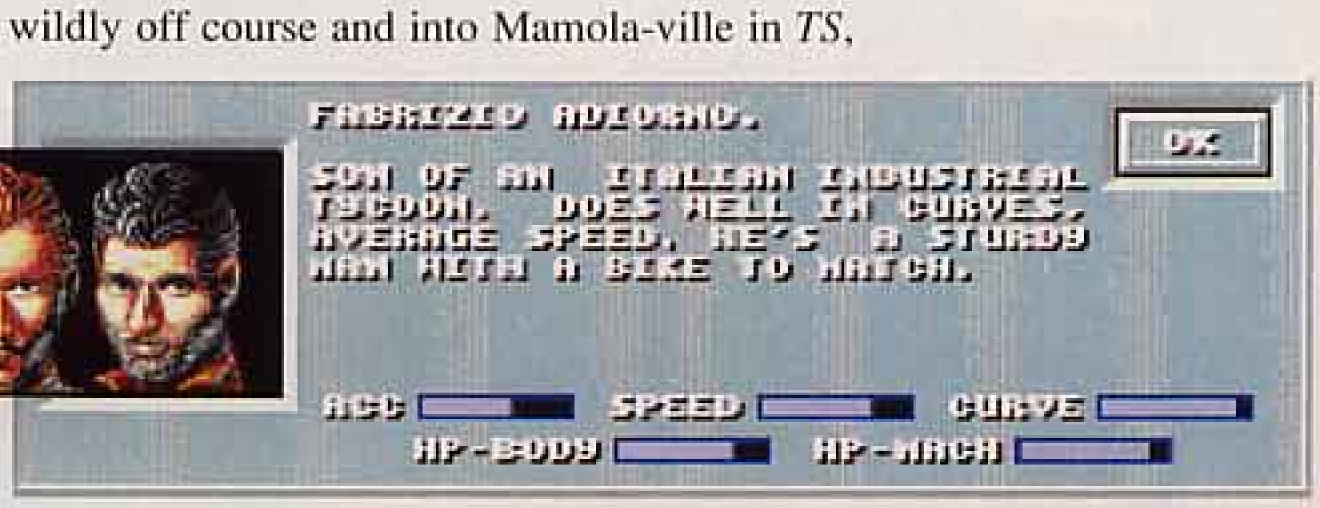
You also get to see the helicopter that follows the lead bike and provides one of the platforms for the four replay cameras that show you how you screwed up on that last chicane. It's reckoned that by studying replays you can learn the mistakes you're making and how to avoid them.

But most simulated track racing is so uncontrolled that it's more often than not a case of balls-out pace all the way (and scrape it round corners at silly speeds) so 'riding' technique rarely plays a part. Replay cameras are fairly pointless, but fun.

While lacking in the authenticity stakes, *No Second Prize* is a good halfway house between the mindless thrash of *Super HangOn* and the hard-to-control realism of *Red Zone* and *Team Suzuki*. If it had the two-player mode of the now-defunct Palace Software's *Hot Rubber*, then we really would have something to write home about.

Karl 'Queasy Rider' Foster





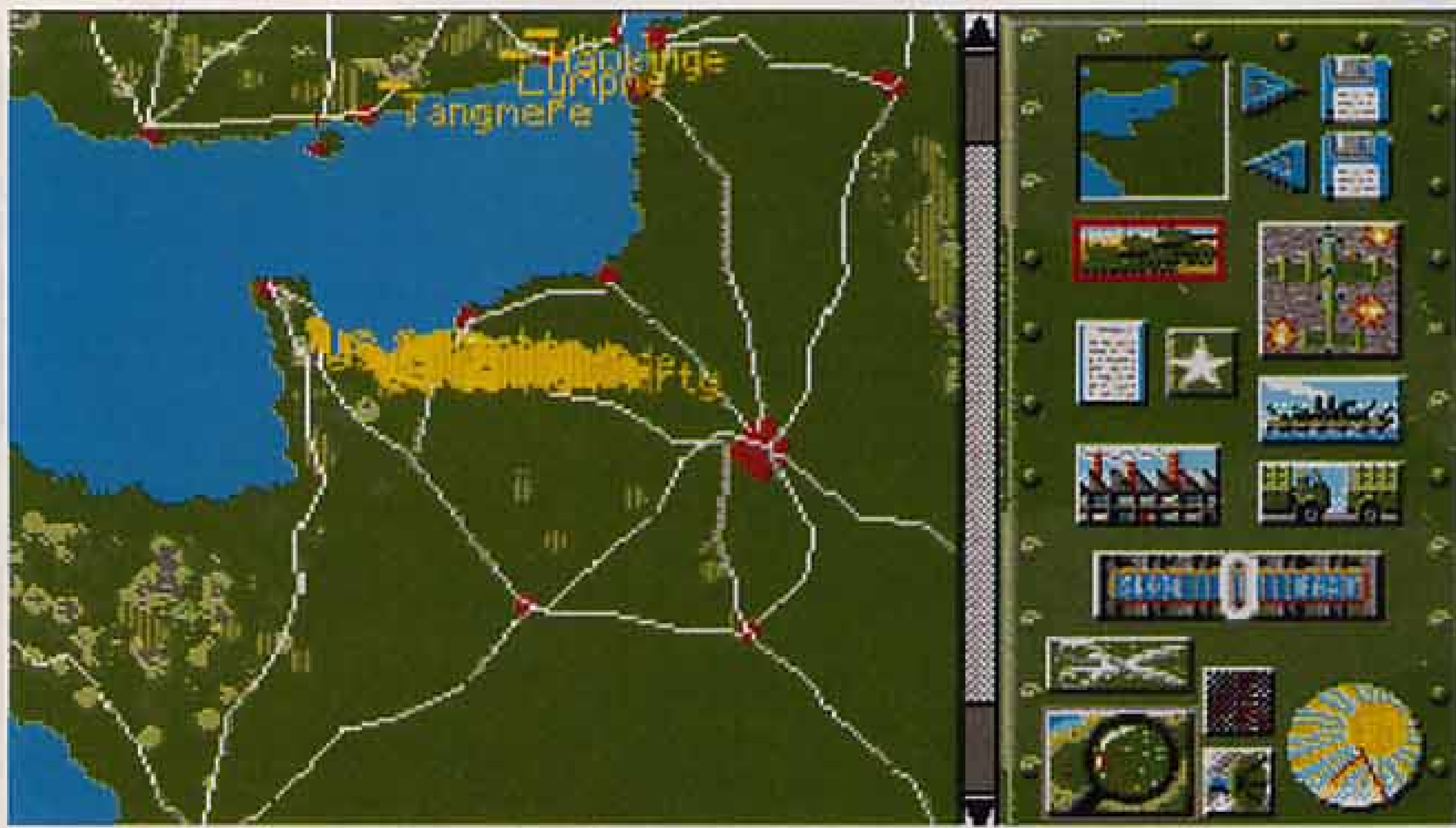
Here are the riders. Each has particular strengths – Fabrizio (right) is good on curves, for example.

No Second Prize
Thalion ■ £25.99

- Very easy to get into – no complicated setting up, just go.
- Fast, controllable and pretty hairy at times with all the on-track obstacles.
- Choice of manual or automatic gear changing makes life easier.
- Not that appealing for fans of realistic racing sims.
- No two-player mode.

Amiga Format Verdict **80%**

Dust off your ration books and prepare to be bored to death by grandad. Alternatively, you could drag him over to your Amiga, stick him in front of Empire's new World War II strategy sim and chortle wickedly as he tries to plug in the mouse...



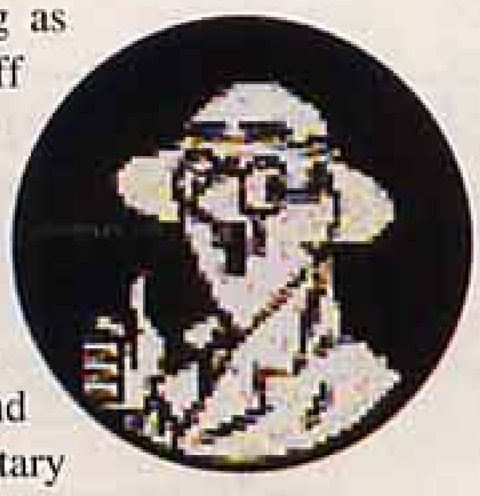
The 10th Armoured Division: your boys, the hard corps. Now you get to lead them against the foe.

Campaign



Ah, let's see now... nice box. Ooh – some genuine World War II propaganda posters and postcards... a battle plan map of the D-Day landings... an authentic wartime newspaper reprint. By 'eck, there's even a game in here, as well!

Before we continue, be warned. *Campaign* is no *Speedball 2* or *Swiv*. It's not a game to set your adrenaline level soaring as you attempt to deftly elbow your mates off the high-score table. Nor will you be beating off sleep deprivation as you try to get past the mutant octopus at the end of level 12. Yes, it's strategy time, folks. That means that it's time to get your thinking helmet on, gird up your synapses, and generally prepare for some major military style method acting.



Thumbs up indeed. This gent comes from one of the postcard-sized poster reproductions that come with the game.

Sophisticated strategy

But enough frivolity: programmer Jonathan Griffiths takes war seriously, very seriously. He's the guy responsible for US Gold's *Conqueror* – a complex 3D tank-driving affair the basic form of which seems to have been revived for one of the sections in *Campaign*.

This time, he's turned his hand to an infinitely grander design: a campaign-based wargaming system that combines sophisticated strategy and simulation tactics with three-dimensional battle sequences. If you thought chess was too complicated and a bit cerebral, *Campaign* makes it look banal and simplistic. If you're fed up with games that only demand mad bashing of the fire-button, if you're after a bit of a challenge, then look no further than *Campaign*.

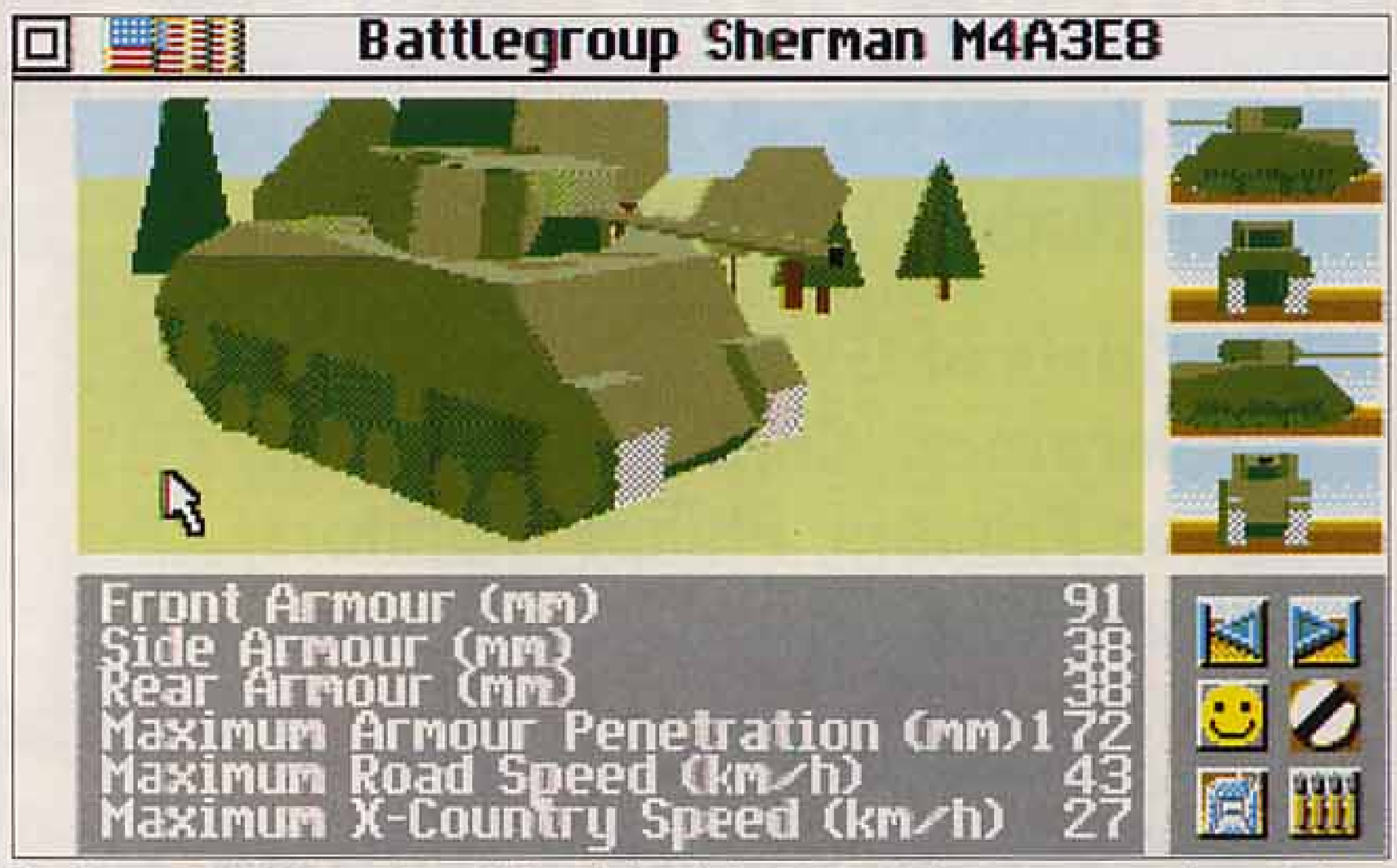
For a start, this is one hell of an ambitious concept, maybe too ambitious. The World War II setting contains a number of campaigns which, in turn, consist of various battles.

Much of the hard strategy of these situations is centred around high-level tactical decisions where, no matter how experienced the fighting force, bad planning will lead to disaster. *Campaign* focuses closely upon the land aspects of the war, but you can also call in air and naval support.

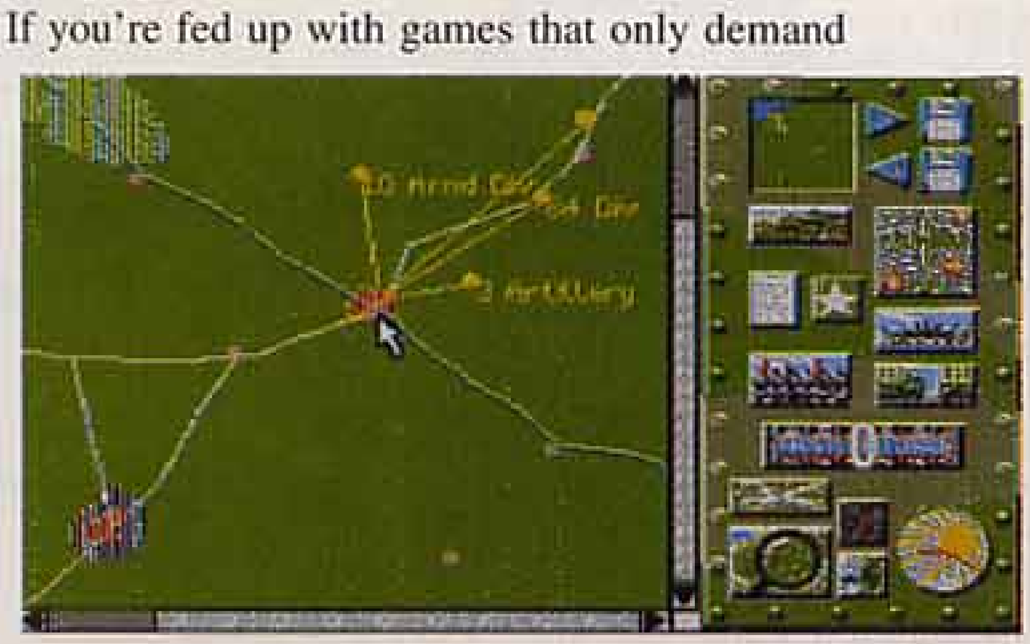
You get three disks: a basic introductory disk, the game disk itself and a maps disk. The third one contains previously designed campaign maps with difficulty ratings from the very easy (such as tank battles) to the more difficult (complex wars of attrition).

Convoy control

The best way to get into the game is to closely follow the start-up scenario from one of the tutorials in the excellent manual. This involves the control of three convoys, an airfield and a production centre. You can examine virtually every aspect of your forces' strengths and weaknesses before sending them in to attack several villages and, eventually, a large town.



The Sherman M4A3E8, complete with its vital statistics. M4A3E8? That's not very catchy now is it. Why couldn't they call these things Brian or Eric or at least Tiger or Panther something?



After mobilising your forces you'll want to storm in and weaken the enemy with a bit of a bombardment.



Now gather the troops and point them towards a town or village in preparation for the attack proper.



Aha, here we go! The enemy's dug-in panzer convoy has been spotted. Watch that shrapnel fly!



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Hey! Party on, dude! Sorry about that, I didn't realise where I was for a mo... Seriously, this is the best, funniest, largest and loads-of-other-words-ending-in-est pinball table ever. Shoot ducks, ride the cyclone, do the skyride (man) – in fact everything's fun and frolics with Party Land... except when the ball falls down the chute. That's a bitch.

Pinball Fantasies

Pinball Dreams was widely acclaimed as one of the most addictive games on the Amiga. For those pinball wizkids who can't get enough of it, up pops the sequel to set your flippers a-flippin'...

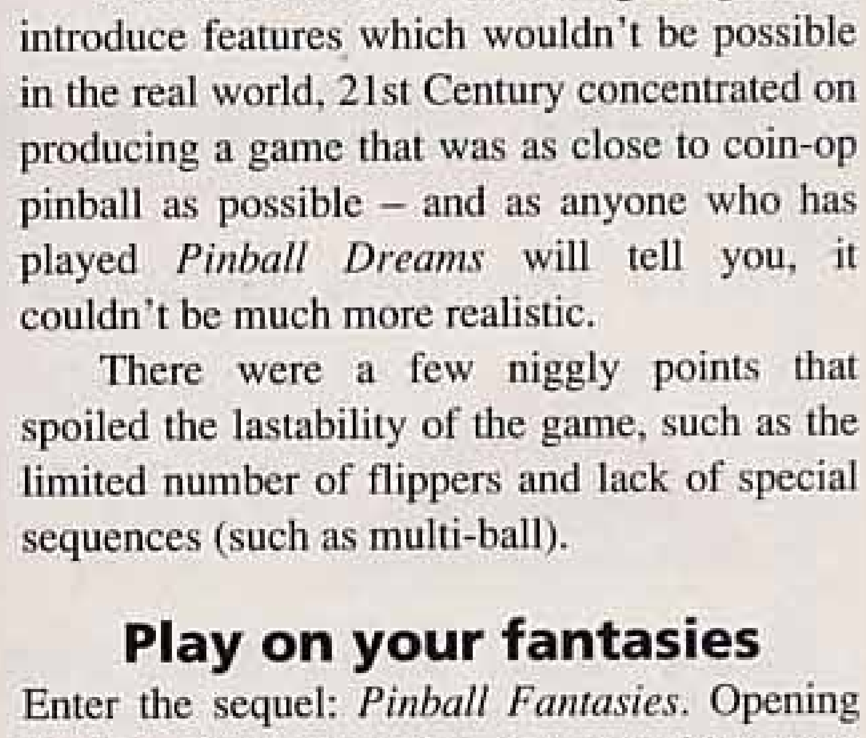
Earlier this year, 21st Century Entertainment proved that the age-old game of pinball can be faithfully reproduced on the Amiga by releasing the incredibly popular *Pinball Dreams*. On the face of it the game seems to be quite simple, but when you consider all the physical components programmed in to make it realistic, such as gravity and momentum, it takes on a whole new complexity.

Not concerned with extending the game to introduce features which wouldn't be possible in the real world, 21st Century concentrated on producing a game that was as close to coin-op pinball as possible – and as anyone who has played *Pinball Dreams* will tell you, it couldn't be much more realistic.

There were a few niggly points that spoiled the lastability of the game, such as the limited number of flippers and lack of special sequences (such as multi-ball).

Play on your fantasies

Enter the sequel: *Pinball Fantasies*. Opening the box gives you a clue that something must



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We thought the men in black were the Stranglers, when in fact they're the Super Squaddies. The boys from the SAS make a lightning-fast appearance while we dive for cover.

Sabre Team

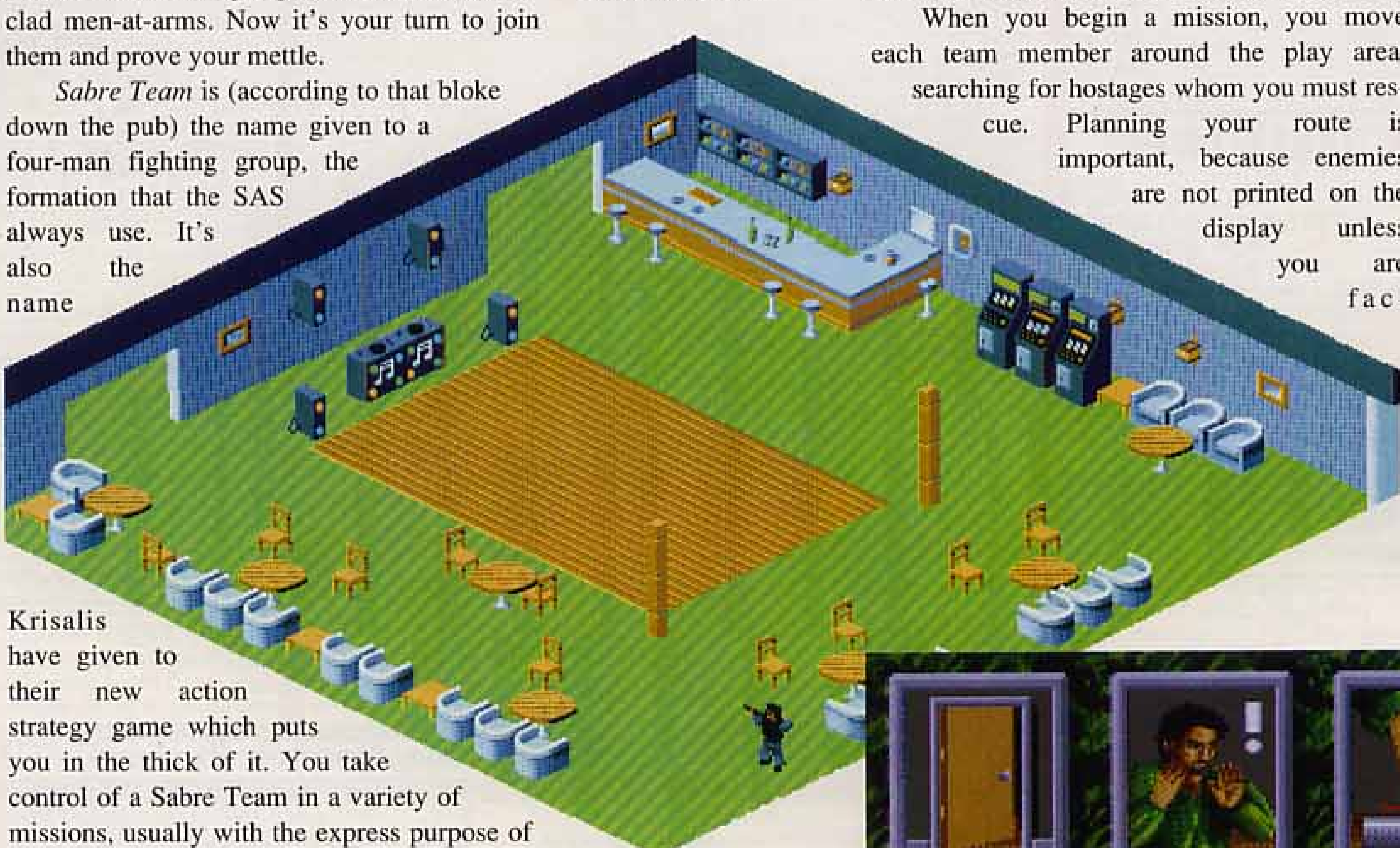


Join the Army and you could have a body like this. Each SAS member you select for the missions has a few characteristics which make him good for communications, medical services and killing.

Nobody knows who they are, but everyone knows they're dead 'ard. Bloke down the pub says he used to be one, but he can't prove it and no-one believes him. Lewis Collins' portrayal of an SAS soldier in *Who Dares Wins* is probably the only insight we've had into the dark world of the Special Air Services, with the exception of the Iranian Embassy siege in 1980, which showed the stunning capabilities of the black-clad men-at-arms. Now it's your turn to join them and prove your mettle.

Sabre Team is (according to that bloke down the pub) the name given to a four-man fighting group, the formation that the SAS always use. It's also the name Krisalis have given to their new action strategy game which puts you in the thick of it. You take control of a Sabre Team in a variety of missions, usually with the express purpose of rescuing hostages or putting a dangerous enemy weapon out of commission. But this is not your usual *Green Beret* or *FireForce*-style shoot-em-up. Instead it's more like *Laser Squad* or *RoboSport*, except the graphics and atmosphere are much, much better.

You begin with eight SAS soldiers, and you must choose four to make up the *Sabre Team* for your first mission. Each guy has different skills and abilities. This enables some soldiers to move faster than others, a crucial thing to watch if you're going into battle – you can only ever move at the pace of your slowest man if you're going to stick together.



Just a tiny part of the ocean liner in *Sabre Team*'s fourth level, this shows the detail and hugeness of the area you fight in.

Before you go on a mission, you can arm your men with an assortment of weapons: all kinds of different rifles, machine-guns and grenades. You also need to kit your team out with bullet-proof vests and medical kits. While the list of guns looks like a catalogue from a military hardware shop, grenades come in just two forms: stun grenade (big bang and a flash - hence the black lenses in your respirators) and CS gas (tear gas – hence the respirator). Neither grenade will kill an enemy (they disable them temporarily), so they're only effective if you use them in the right situations.

When you begin a mission, you move each team member around the play area, searching for hostages whom you must rescue. Planning your route is important, because enemies are not printed on the display unless you are facing them and they're in your line-of-sight. This means you have to spin round occasionally, to check that there isn't somebody hiding. If you hear or see enemies en route you can fire at them or throw grenades using the icon panel.

Hostage with the mostage

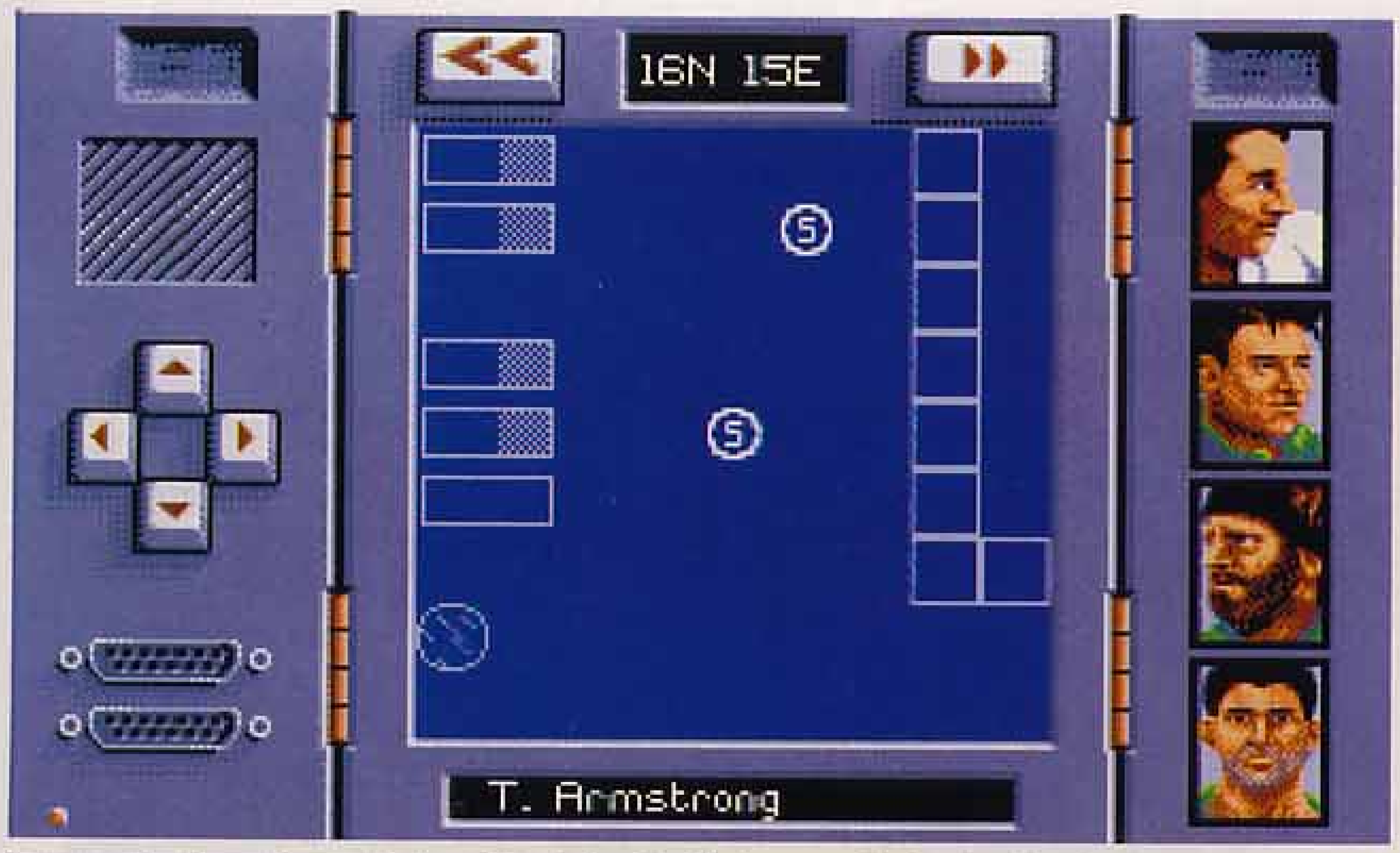
Once you've moved all of your team, the computer takes its turn. It works its way through all the enemy players, moving and reacting in the same way you do, except that they remain concealed unless they move into the view of one of your four players. Hostages also get moved at this point, though they never usually move far because they're locked up. Occasionally an enemy soldier will take a pop at you, but if you have unused action points remaining, you get the opportunity to return fire, or get the heck out of the way.



These eight squaddies form the total manpower for all five of *Sabre Team*'s extensive levels.



After you've made your moves, the computer takes its turn. It checks for enemies spotting you or shooting and for hostages wandering around their cells.



In many situations, it pays to do a bit of planning before wandering into battle. You can use the blueprint screen to check bullet trajectories and see the lie of the land before moving in.



More weapons than a man can carry, even if he is an SAS soldier. Tool up and take to the hills.

If one of your players gets shot, then his action points are reduced, and he is unable to move so far the next turn. He'll stay like this unless you've got a medical kit to help him heal. Assuming you don't get blasted, you continue to move your soldiers to where you think the hostages are being held. If you find one, you can bring him under your control by standing in the square next to him. It's then down to you to guide him to safety, in the same way you guide your troops, except the hostages are never armed. The hostages are usually the most important element of a mission – more important than laying waste to enemy troops. In fact if you kill more than a certain amount of enemies, reinforcements are brought in to keep the battle going.

The five missions range from jungle camps to embassy buildings, enabling you to vary your tactics and explore new terrain. You can save and load games between moves, so you don't have to complete a mission in one go.

“ Sabre Team is excellent fun despite not being an action game ”

Whose hair thins?

Sabre Team is fun despite not being an action game. There are probably not quite enough action points to make it really exciting, and you do need to concentrate and plan a great deal. Often you'll get yourself into a situation from which there is no escape, because you've used up all your action points.

The gameplay, mechanics, graphics and sound are all high quality, but you have to be patient to get the best out of *Sabre Team*. The computer takes a while to go through its moves, and this may put people off. This is not a problem if you're used to strategy games (and *Sabre Team* is a strategy game, despite its action-game looks), but this may affect your enjoyment if you're expecting a mega-blast. It can take hours to play a mission to its conclusion, and you need to plan carefully to win. If you rescue the hostages, you may still lose a few valuable team members – plus their ammo, weapons and kit. Your remaining players must select their equipment from a reduced quartermaster's stores before starting the next mission. Getting off to a bad start can make it more difficult to complete the whole game.

Sabre Team is a tough game, which looks like it ought to be a shoot-em-up, but which is in fact a very adult strategy game. It misses out on the golden opportunity of a two-player mode, which is criminal, but there's a very solid, enjoyable game waiting to be played, albeit alone. You'll need to have a bit of patience to complete each mission, and you may be a bit frustrated when you have to start all over again when your men and machinery run out. Certainly worth a look, and worth buying if you want a war-game with a bit more style than usual.

Neil Jackson

Sabre Team
Krisalis ■ £25.99

- A refreshing change from normal board-style war-games.
- Simple to use, easy to get into, but a wee bit slow in places.
- Great variety of mission locations makes for interesting conflicts.
- Not really for kids, this is for would-be gung-ho adults with time on their hands.
- Entertaining, original and exciting too.

Verdict **87%**



I never knew that a stick with graphite through the middle could be so lethal. They should have a government health warning on them.

Doodlebug

Core Design ■ £25.99

Doodlebug **plays a lot like the fabulous *Zool*. The hero of the story (who, strangely enough is called Doodlebug) runs around a lot killing weird and wonderful creatures, picking up bonuses and spinning lots. A basic platformer, with extra speed, you can fire a very strange collection of weapons at your enemies in the land of Cartoonia. Most of these weapons are in the form of different coloured pencils that not only destroy your foe, but also lay down a bonus for you to collect. For example, a yellow pencil will draw a stop watch, freezing all your enemies for 10 seconds, while you whiz on past.**

There are loads of pick-ups to bemuse and delight you, some good and some quite nasty. And there's lots of gold for you to collect and save for that nice shiny car, or even better, a submarine. Doodlebug is nothing new, it doesn't even stand out in its field. But if you've already got *RoboCod* and *Zool* it might well be worth giving this 20-leveller a bash.

Clare Hodgson

Verdict **72%**



Even if you do enjoy a Big Mac™ attack (with McDonalds Cola™), chances are you still won't enjoy this blatant bit of product placement.

McDonalds Land

Virgin ■ £25.99

It had to happen sooner or later, didn't it. The big American burger business teams up with Branson's finest to bring you a marketing exercise to remember... for five minutes. *McDonalds Land* is a cutesy platform game, of the particularly predictable and ordinary variety, dressed up with lots of images of the legendary Ronald McD, McDonalds and Virgin logos, and other symbols designed to provoke your shopping impulses. It's all really rather sad.

McDonalds Land **is a flat, two-dimensional kind of place, with very little in the way of stunning graphics or impressive sound effects. There are platforms to leap on, cute fluffy animals to dodge, and special icons to collect. Yawn. Virgin tell us that the game is aimed at young kids, but it's doubtful whether even they will be impressed. After all, the hardest cynics we know are under the age of 11. It's almost fun for a while, but it's about as satisfying as a cardboard ring in a rubber doughnut.**

Neil Jackson

Verdict **44%**

Lucasfilm have dominated the graphic adventure genre with their *Monkey Islands*. Now Core Design have a stab, but the question is, will it leave you quite as enchanted?



Core Design's pretty-looking *Curse* throws you into a cell. You are chained to the wall. You cannot see a key. What now? The beginning of a million adventure games?

Curse of Enchantia

Baseball, see – that's the cause of all the trouble in *Curse of Enchantia*. Now, if Brad had been playing a good solid English game like cricket or... um... another English game, the witch wouldn't have dared interrupt in the first place and everything would be hunky dory.

We'll quickly skip through the plot: this place called Zeloria is ruled by an evil witch who wants eternal youth. She can only have that by getting a human child from somewhere, so she makes up a quick spell and nabs Brad from the baseball field just before he's about to make a triple play or whatever it is baseball players do. Thus Brad (Brad? I ask you) finds himself chained up in a dungeon at the beginning of the game. Not much to make your jaw drop there.

Curse of the icons

Curse of Enchantia is a graphic adventure, and no, *Monkey Island 2* isn't getting a mention yet, that's for later on. It's so graphic you don't get any text whatsoever. Brad is controlled entirely by a set of icons that cover common stuff like taking, speaking, jumping, fighting and looking, but unless you study the manual first you'll have some trouble figuring out what they are. What's the difference, for instance, between an icon of a key going into a lock and an icon of a security card going into a slot? Everything you can manipulate is represented as an icon too, which can lead to some confusion. That great grey blob that you first thought was supposed to be a chewed-up bit of gum turns out to be a rock. It would have been useful to have text confirmation of the objects for the more stupid among us.

UNDER THE SEA, EVERYTHING'S WETTER, EVERYTHING'S BETTER... UNLESS BRAD'S THERE

The game gets going when you escape from the prison and end up under the sea with nothing but a convenient fishbowl to wear.



Put the fishbowl on, quick. First thing you notice is this fish which is stuck in the railings. You can either eat it, except that doesn't work, or free it like the hero you are. Not that it does anything useful – yet.



Onwards to Mr Fish's Shop (there's a devastating imagination behind that title). Dig in the mud patch at the front, get the worm, give the worm to Mr Fish and you can fill up with oxygen.



Next your way is barred by these electric eels. Luckily the fish you freed earlier reappears and gives you some plankton in a fit of gratitude. Give the plankton to the handy turtle and he takes you across the eels.



Yet another obstacle – the shark. Look around behind the weeds and find the electric prod thingy. Use that to zap the shark and move left slowly.



There's not much to do with the clam except jump over it. Or you could pop it into a spaghetti vongole.



Finally you reach the plug hole. Use the prodder again to lever it up. You're sucked down the hole and into a cave. Only another 190-odd screens to go.



Could go for the 'well, well, well' gag here, but I don't know it so that's right out. Wells traditionally need gold coins dropped down them, and what do you know, that's just what you picked up earlier. Hmm.



Yes, that muddy, turdy-looking thing that looks like it's walked straight out of a Domestos commercial is the mud monster. Yes you're standing in its way. No, it doesn't kill you. It doesn't do much until you find a bit of wire.

C of E is a good example of how first impressions are notoriously unreliable. There you are, chained up in the dungeon, with nothing at all to use. Naturally you shout 'Help!' using the speech icon (which only gives you 'Hi' and 'Help' to say anyway). A sampled 'Help!' wafts from the monitor. In comes the guard, shouts 'Shut up!' at you (again with a sample), trips up on the step on the way out and drops his key right next to your hand.

Now, you could easily be forgiven at this point for thinking that *Enchantia* is a logically flowing, high quality adventure full of sampled sound and great animation. After all, that's what the evidence has been until now. Oh dear.

Whinge moan complain

Problems. One: the sound that appears in the first frame is, you discover, very uncommon. There are a few samples of dripping water and suchlike, but mostly the game's quiet.

Two: most of the puzzles aren't at all logical. Here's a long, but pertinent, example: later on, you need to make a mask, though you only discover that once you get all the bits that make up the mask. For part of it, you need some wire. The wire, you find, is in a hole in a cave (except you're more likely to think it's a roll of cotton from the icon). To get the wire out of the hole, you need to pick up a computer from one of the caves (does the word incongruous spring to mind?), open it up, take out a magnet which it contains for some reason, and tie the magnet to a piece of string.

How to get the string? Oh, obvious, really: you go about collecting lots of rocks, give them to a bloke you meet in another cave and he gives you string. You can then sling the magnet into the hole and pull out the wire. But if you can feel the wire in the hole in the first place, why can't you just pull it out with your hand? And how would you know that the PC had a magnet and the bloke had some string?

It's these sort of contrived puzzles – a matter of trying every object you find with every action you've got – that ensure the game never gets any better than being annoying.

Another inconsistency occurs with the most basic of actions. Sometimes, to carry out an action, you must push something – a button, say - but at other times simply looking at it is enough. To dig in the mud under the sea, you just look at it, but to escape the cave, you have to push the button. If you do something that can't be carried out, all that happens is the cursor turns into a thumbs-down sign - there's no explanation of why it can't be done. As if all that weren't enough there's a lot of tedious trudging about to do as well.

So here's where *Monkey Island 2* gets a mention. Like most graphic adventures released these days, *Enchantia* at first appears to be a *Monkey Island* clone. The way the character is controlled, the textless interface and the look of the screens all bring Guybrush to mind instantly. You need only play for two or three minutes to discover that there's just no comparison. The control method is very different; after all, in the Lucasfilm game you could see what you were doing and what you were doing it to.

Enchantia's textless interface just doesn't work – despite the designers' belief, you do need words. The graphics aren't nearly as well drawn, though there's some decent animation scattered very thinly around the place. There's no humour to speak of, no genuinely amusing humour, anyway. The only thing *Enchantia* has in its favour is its size: 205 screens in all, a potentially enormous playing time.

It would be great to see a British Lucasfilm beater. *Lure of the Temptress* came close, but *Enchantia* is light years behind. And as for calling the kid Brad, well...

Ed Ricketts



It's glaringly obvious from the clues you're given in this room that you should go away, collect a load of rocks and then give them to the basher in return for a piece of string, isn't it?

Curse of Enchantia
Core Design ■ £34.99

- The brave attempt at implementing a truly textless interface unfortunately falls flat on its face when you try to use it.
- The graphics and sound are reasonable, but they seem to get less impressive the further on you go. Odd.
- Huge playing area...
- ...but the illogical and stupid puzzles mean you probably won't bother to see any of it.

Amiga Format Verdict 62%



Not particularly great vector graphics, but quite a challenging flight sim all the same, even though it does look and feel a bit dated.

Air Support

Psygnosis ■ £25.99

Nice intro anim – two Tornadoes taking off. End of nice graphics. *Air Support* puts you in charge of a futuristic armed service comprising fighters, tanks, recon vehicles and missile launchers – all controlled from your command ship.

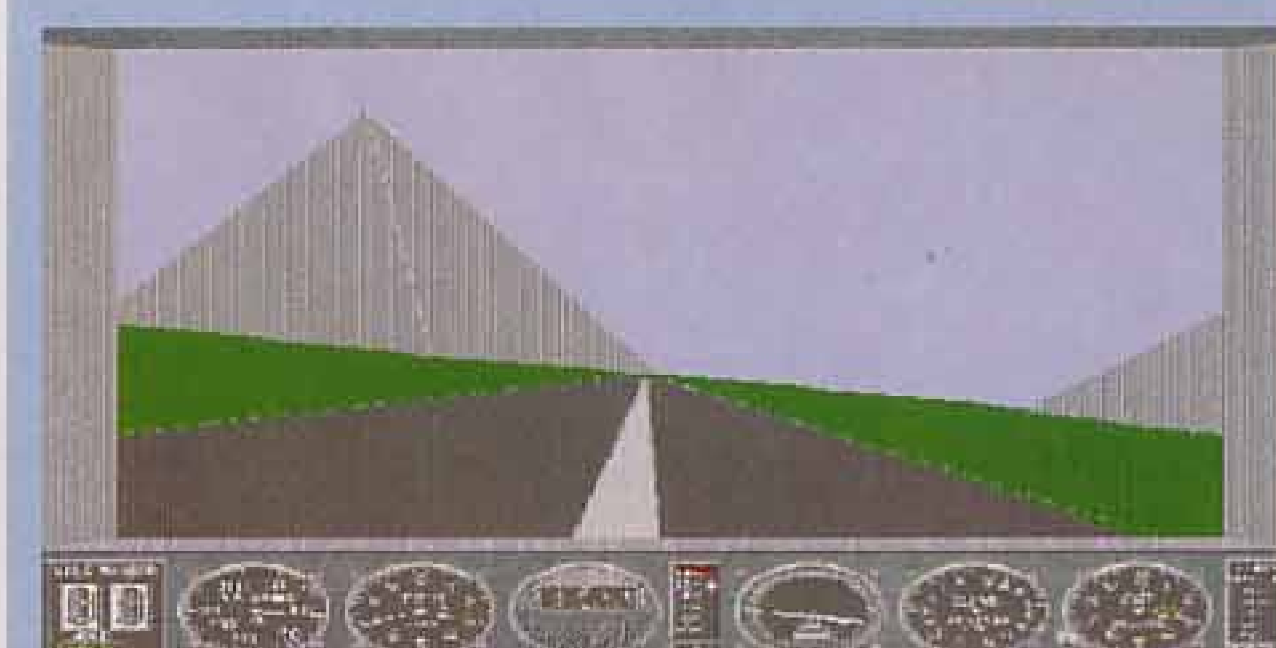
The game is split into 60 different missions. About 15 of the first 20 training missions have to be completed before you can progress on to the full battle simulation. These latter simulations have you controlling defence complexes, which consist of factories, generators, radars and missile stations. Complex is the word.

The game is ugly. Vector line graphics are the core of the game, and they look terrible. You can switch to a 3D viewing mode (red-and-green glasses supplied) but, to be honest, all it did was give me a headache. You can also play the game in interlace high resolution - but the screen size shrinks to a postcard in the middle of the screen.

It's quite a challenging game, but the fun is in short supply. *Air Support* simply has no hook. An ambitious project, I can't help feeling that it was finished years ago and has merely had pointless features (like the 3D) added to try to pad it out.

Pat McDonald

Amiga Format Verdict 62%



Fighter Duel Pro uses no keyboard controls at all, everything is accessed through either the mouse or joystick.

Fighter Duel Pro

Jaeger ■ $69.95

At first sight this looks good. A flight simulator with 16 World War II planes, accurate flight characteristics and a lightning frame update that's second to none. Eagerly I skimmed the manual to go up and shoot some planes out of the sky.

The first problem I had was in getting a gunsight up. *FDP* uses no keyboard controls at all. All the planes become uncontrollable at high RPM and low flying speed. Try as I might, I simply could not keep one plane in the air for more than five minutes. There are nice touches – you can link head-to-head via a null modem cable or modem link, and even link two Amigas together, one displaying a rear view (the hardware for this is not included). Best avoided by all except true propeller heads. Plus if you want to get hold of the game you're going to have to get it direct from Jaeger in the States.

Pat McDonald

Amiga Format Verdict 27%



Don't be fooled by their quaint antics – these cute little furry things can be deadly if fed after 12. Son of *Skweek* stays cute and amusing.

Tiny Skweeks

Loriciel ■ £24.99

Reminiscent of all the cute little puzzle games that have ever touched your Amiga's internal drive, *Tiny Skweeks* is just fab. The furry stars of this adorable game are the offspring of Skweek, who had his own US Gold game a couple of years ago. If you remember *Skweek*, you'll recall it lacked originality but was fun and had a cutesy, colourful appeal to younger players. And the same is entirely true of this one, too.

This game is exactly the same as *The Power*. The idea is to move objects – in this case, Skweek kids – to particular places – in this case, the appropriately-coloured base. The problem is that Tiny Skweeks will only move in straight lines and only stop moving when they hit the edge of the arena. Add in special squares that push and pull, and manifold puzzle potential is opened up.

Original it isn't. Enjoyable, intriguing and well-presented it is. If you haven't played this type of puzzle game before, get this version.

Clare Hodgson

Verdict 81%



Catch a falling block and put it in your pocket, save it for a rainy day... Stacking matching colours straight up will do you no good at all.

Zyconix

Accolade ■ £24.99

Oh, not another *Tetrisy* thing. Hasn't the world got fed up of these pile-em-ups yet? But hang on, that's a bit weird – you move the coloured blocks from column to column as they're falling. You don't pile the colours vertically, they have to be diagonal or horizontal. Errm... interesting! Come on, let me have a go!

The original falling object puzzle game, *Tetris*, was shape-based. This one, like many later *Tetris*-style games, involves matching colours. You have to get four of the same colour in a row, and then they disappear. Simple enough...

Yet we're often amazed by the way the simplest things make for such addictive game play. *Tetris* is without doubt a classic, but now it has had its day. There are such great clones out now, both full price and PD, that the original fades in glory every day.

If you fancy giving a different pile-em-up a try, we can highly recommend *Zyconix*, even if it's just for being so incredibly addictive.

Clare Hodgson

Verdict 75%



Oh what a personal disaster! Our hero (Gashead the Paladin) finds himself confronted by a monster in this rather open-plan dungeon. Oh boo-hoo hooo! What can he do? And do we really care?

Paladin II

Impressions bring us yet more of the Omnitrend control system and sub-Legend/Laser Squad fun...

Paladins: are they just too goody-goody for their own good? Apparently so. Face it, they are not as much fun as Trolls, they are not as hard as Fighters, and they are certainly nowhere near as potentially dangerous as Mages. They are just sort of, well OKish at everything.

So why have Impressions (or rather Omintrend, the programming team behind this game) decided to name this adventure-cum-strategy outing after one? Probably because, like the game itself, paladins are decidedly average in everything they do.

Paladin II has a very familiar feel to it. In fact that is understating the case – if you have seen *Breach II* or *Rules of Engagement* then you will be able to spot the game engine a mile and 13 leagues off (it was put together by a certain T Carbone, who seems to know a decidedly average system when he sees one). If you haven't, but you have played or seen the classic *Laser Squad*, then you will have some idea of how this game is played. It is a turn-based outing into mythic mini-adventures in which you must fulfil pre-defined victory conditions. You get to play the Paladin who leads his party (Paladins are a male lot) into a bunch of wildly exciting and jolly sticky situations.

> **“ This game is outdated and, as such, it costs too much ”**

For every quest you successfully carry out you are awarded points, as you are for each member of your party you take through to safety. Your aim is to get as many points, complete as many of the quests and generally work up as much interest as possible before moving on to the Quest Builder (see below).

BLAME THE EDITOR

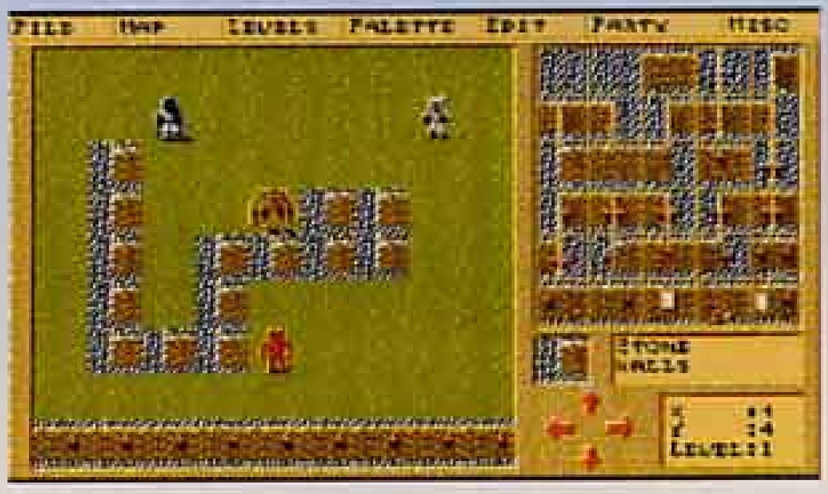
One of the saving graces of this (and many other) games is that *Paladin II* comes with what's known as a Quest Editor/Creator.

What this means is that once you have finished the quests that accompany the game proper, you can set about inventing your own worlds, with your own victory conditions and even your own enemies (within reason).

While this does add massively to the longevity of the game, you are really somewhat constricted by a formula:



Design your own monster, now that's what I call adventuring. Let's build a lightweight!



You can get really carried away with this quest-building stuff: let's have another one.



Look, it's Barrington Partridge-Morrison-Ford the mad magician from Maidstone, and he's found some electronic graph paper. Yip-yip-yahay! Let's find some trains to spot.

Frankly, it's all standard fare. The only difference between it and *Breach II* or *Laser Squad* is that because you have few ranged weapons, you have to be up close before indulging in combat. But this isn't to say *Paladin II* doesn't have a lot to offer to players who really enjoy the mechanics of dungeon exploration, party movement, and some hack'n'slash thrown in.

Got a problem?

My main problem with it isn't that the sound and music are virtually non-existent (the odd door opening or sword slashing does not an aural feast make); nor is it that the graphics are uninspiring (having spent ages trying to talk to a maiden, looking at every chest, exploring every fireplace, only to realise these staples of the adventuring trade are merely scenery). No, my main problem with this game is that it is outdated and, as such, it costs too much.

Quite simply, you could happily play out all of these scenarios on paper with roughly the same effect. Because the sound is so bland, because the graphics are so poor (don't believe the horse-waste on the box about 'Superb graphics' showing a nicely drawn picture of a dead Paladin. The caption should really have read '*Paladin II* contains this reasonable picture of a dead Paladin, the rest of the game is bland'); because of these factors, a few pieces of grid paper, some pencils and your friends are far better to use than your Amiga. Even your imagination can produce better sound and better graphics than this.



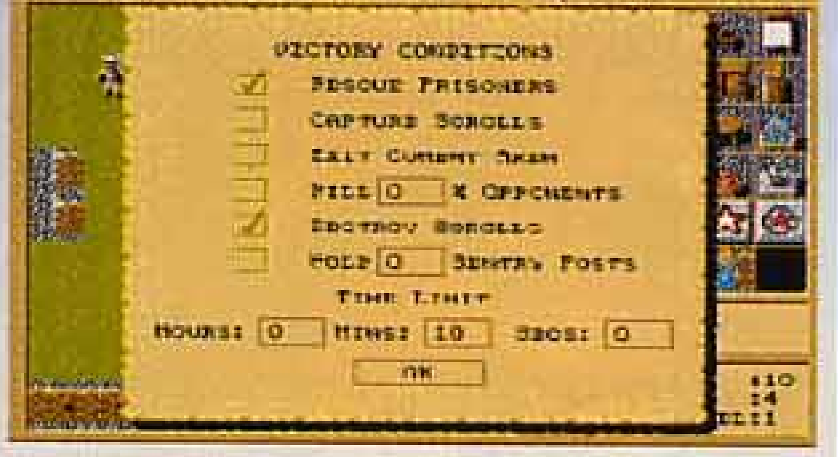
Here we go then, another castle, another chance to have the blood beaten out of you. Ger-rate...

Eleanor Rigby

However, if you always cut yourself when sharpening pencils, if the lines on graph paper make you dizzy, if you have little imagination and very few friends, then *Paladin II* has plenty to offer you. But if you look at something such as *Legend* which does the party adventuring, dungeon-exploring style play so much better, you can see how aged *Paladin II* is. Thank God for the Quest Builder and the chance to make your own ways. Sadly the game is £10 too much and five years too late, but you can't have everything can you? No, but you could try a little harder than this.

Tim Smith

destroy X per cent of enemies, rescue Y, capture Z and exit the target area. Still, it is a healthy addition to *Paladin*, and one that is ideally suited to the type of player who enjoys strategy wargaming from every angle.



You can also get an idea as to how the quests you are playing work when you build.

Paladin
Impressions ■ £29.99

- The bundled Quest Builder manages to add some life to the game.
- A similar kind of game to *Laser Squad* (but not by any means of the same quality).
- A tried (tired!) and tested game engine.
- No sound worth speaking of.
- Bland graphics.
- Try graph paper and some friends instead.

Verdict 69%

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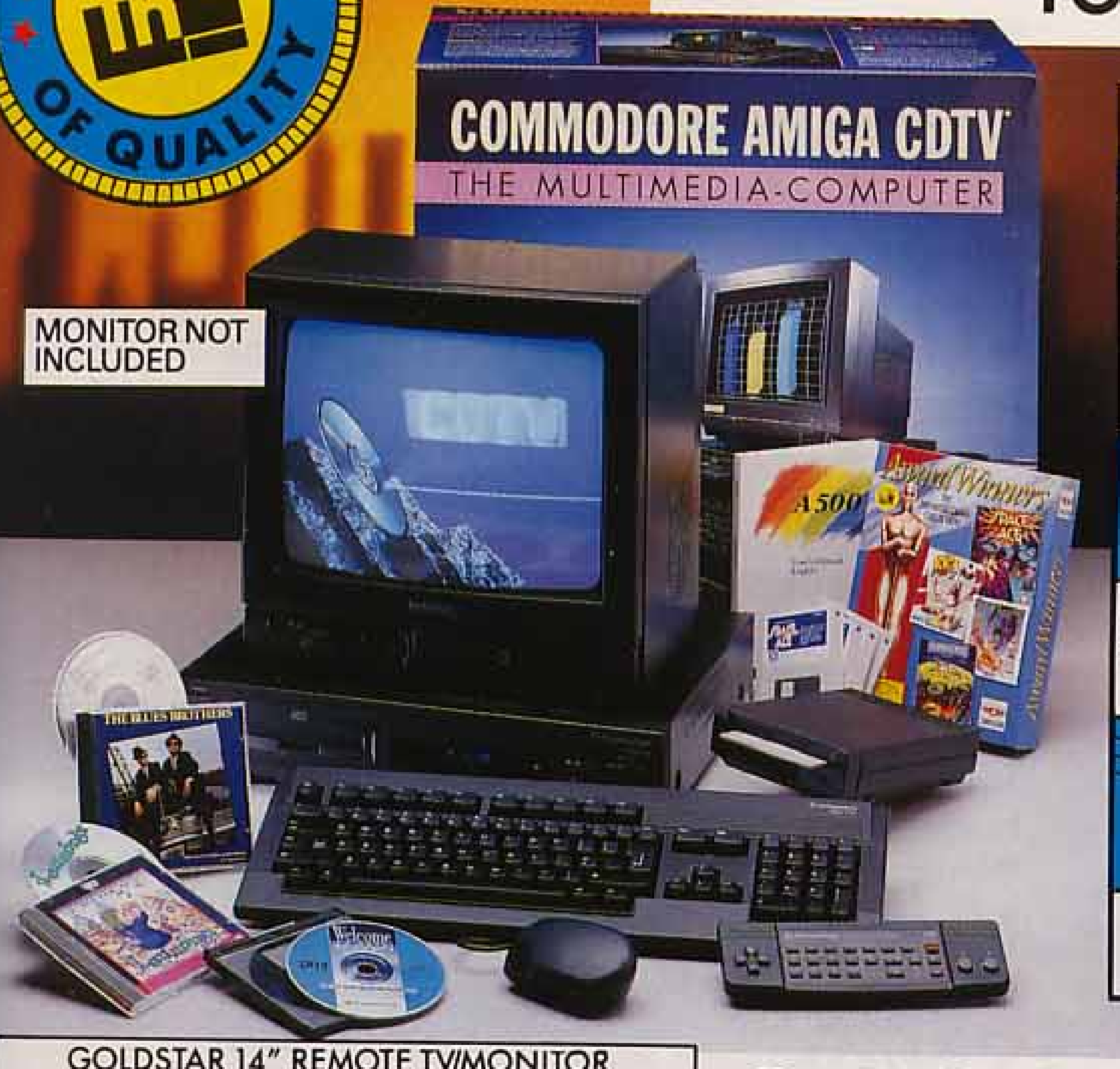
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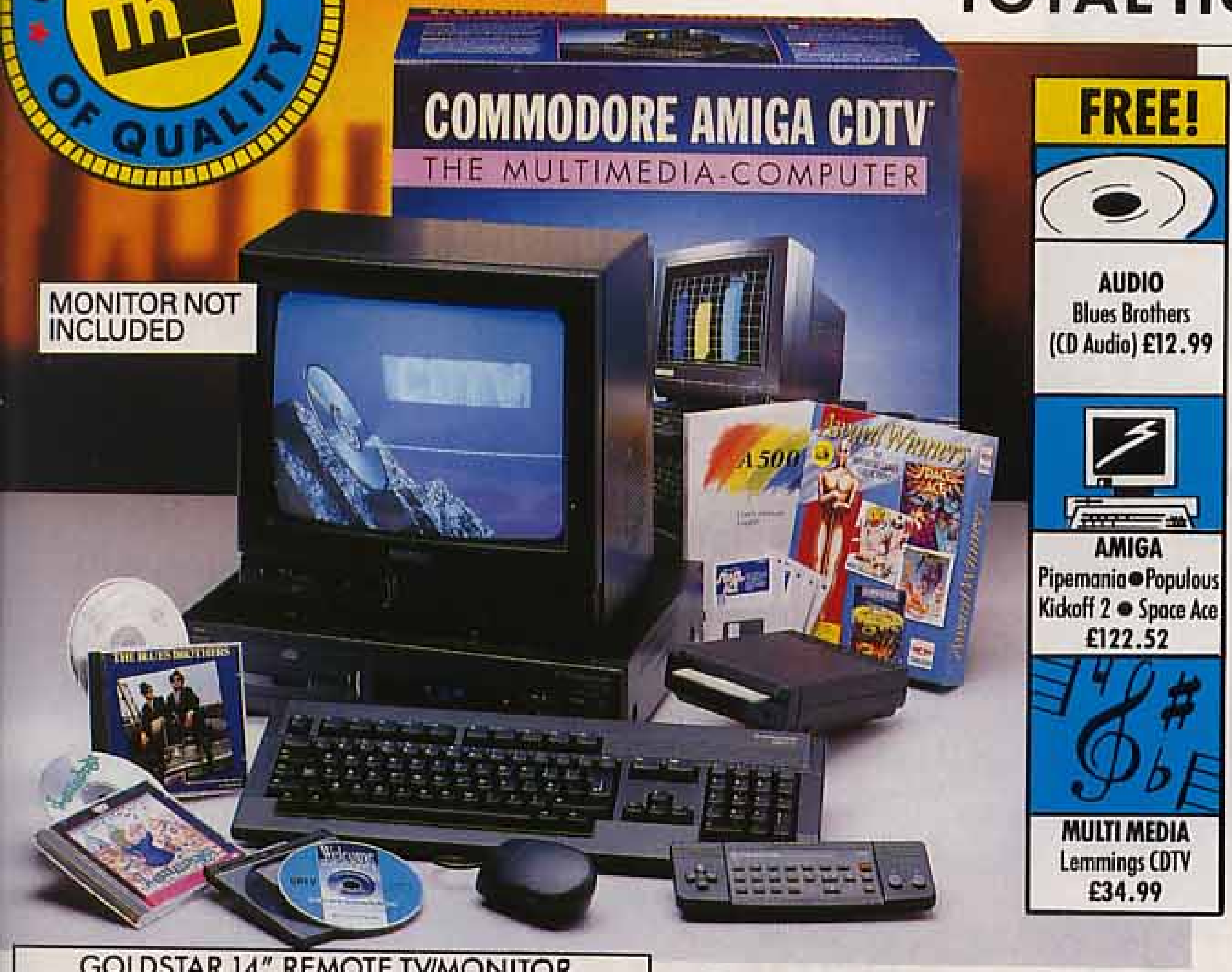
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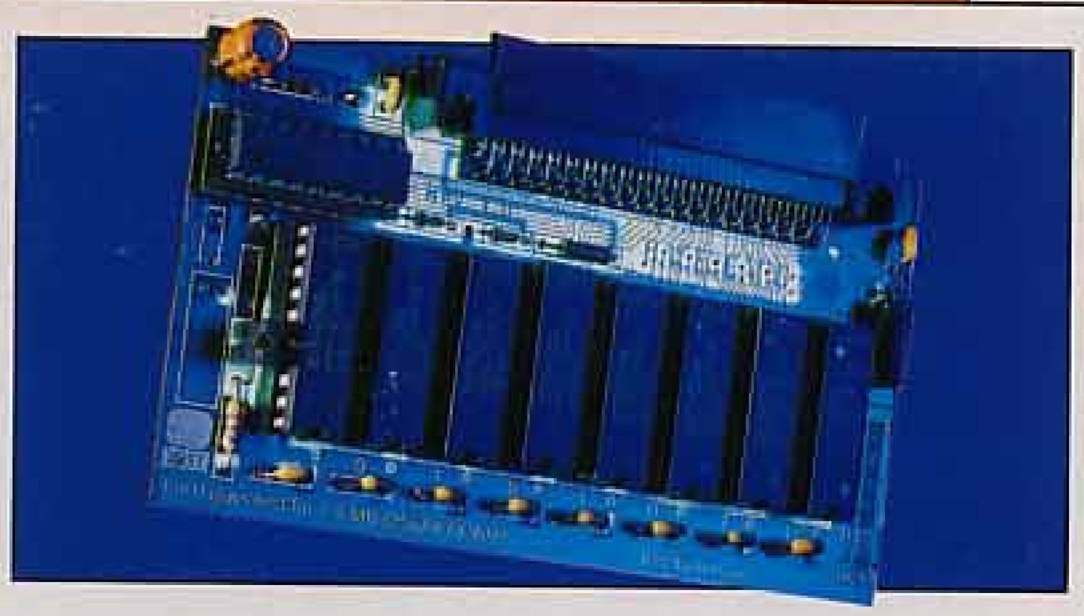
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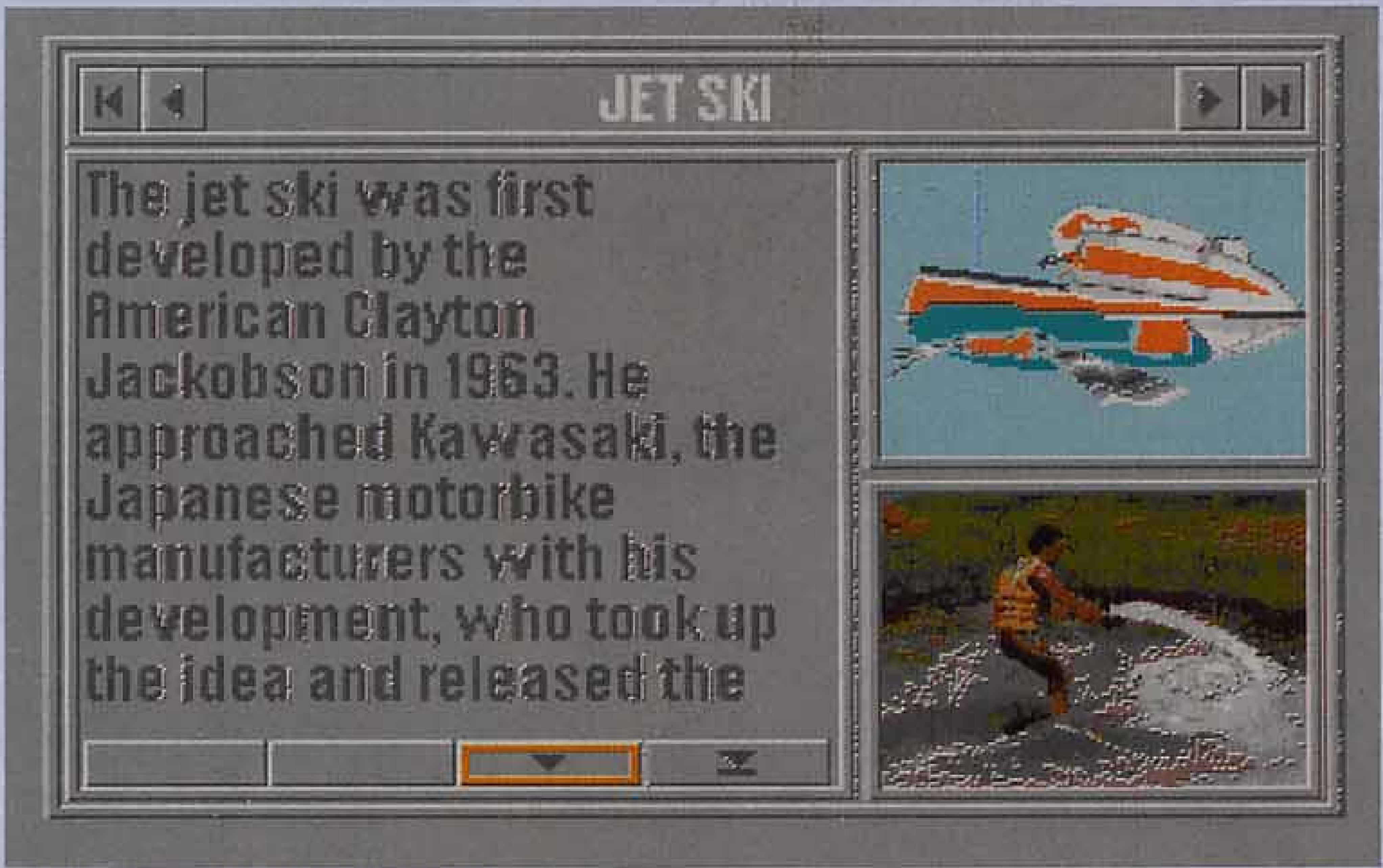
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The topic screen features text that can be scrolled through by highlighting the right buttons; forward and backward buttons to go to the next topics in alphabetical order; and, most interesting, miniature stills from the animation and the photographic slideshow, which you click on to view the piece.

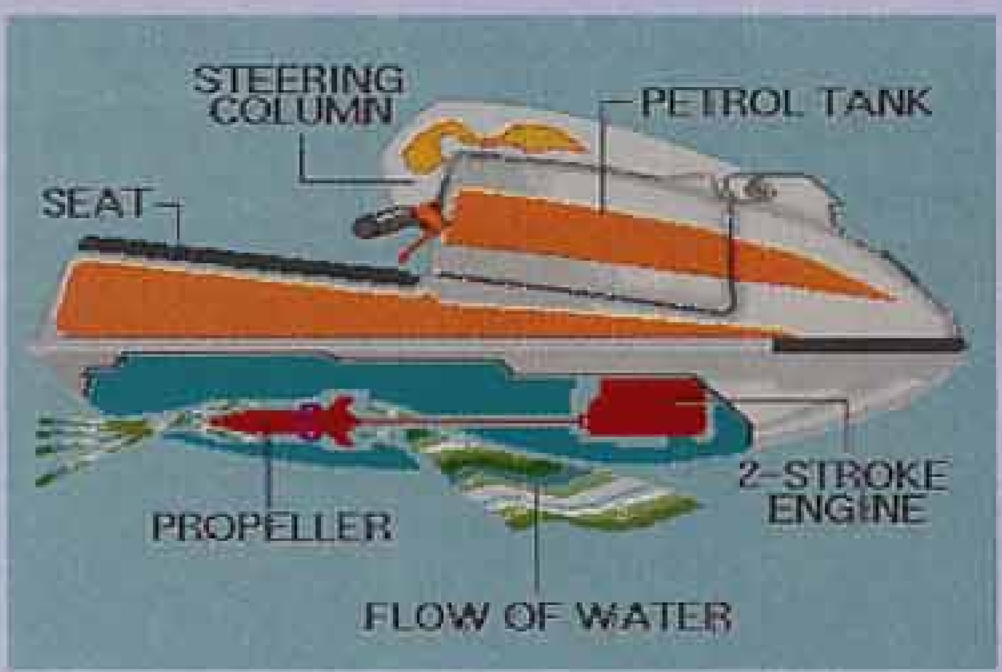
The fact that it's got 526 Mb of data stored away and uses a unique technique for loading quarter-screen video footage and audio might not mean anything to you: but the fact that this is one of the best-conceived and best-presented CD titles yet to appear should certainly make you sit up and take notice.

That 526 Mb is claimed to be the largest amount of data yet stored on a useable Amiga CD title, but it's what it's used for that's significant. Optonica have taken the time and trouble to produce a series of lavish illustrations – most of the work done in-house by their own artists – to come up with a disc that actually makes the most of the Amiga's strengths rather than pointing out its weaknesses.

This is the first in a planned series under the 'Insight' name. It's a reference work very much in the *Boy's Own* or *Look and Learn* tradition, which essentially means it's a kind of technical guidebook to the electrical and mechanical apparatus you might come across in daily life. It's not necessarily biased towards a younger viewer, but you can't help but feel it will appeal to the curious youngster.

The authors have picked out 262 'topics' (items for investigation) ranging alphabetically from the aerofoil to the X-ray machine via internal-combustion engines, jet skis and typewriters. Each and every topic is covered by text describing how it works and has an animation illustrating the principles. There's also a slideshow of digitised photographs for each topic, accompanied by narrated background information such as history, and for 35 of the topics there is also a quarter-screen video clip.

Simple enough, in itself. Where this disc scores massive points over those reference works that have come before it is in the thought that has gone into the concept and in the detail of the execution. The idea in itself is considerably more valid than most CD



The animations, beautifully created in *Deluxe Paint*, are an ideal way of showing the workings of a complex mechanical device. In this diagram, water flows and the propeller rotates.



The slideshows, which mostly feature relevant and well-digitised photographs, are accompanied by a narration which tells you a little about the history and the development of a particular invention. All rather entertaining.



While it's a shame that the video clips are small and the limited colours makes them look a little strange, they have been handled well. The presentation in a static screen is effective and the clips are on the whole an asset.



It may look pretty tedious, but the highlighted words work well enough for the karaoke purpose and the plain blue background means you can genlock in video pictures.

KARAOKE HITS 1

MUSIC MACHINE ■ £19.99 ■ 0204 387410

Some have scoffed at the idea of using the CDTV for karaoke, but in actual fact it's a perfectly good idea. For anyone setting up a business in karaoke or wanting to get one in their pub or restaurant, CDTV makes an ideal option because it can handle the graphics as well as the CD-quality audio.

And, who knows, you may even want to sing along at home. I think it's quite mad, but I'm told it's fun at parties. Ho hum.

This disc is sensibly presented, with decent arrangements (without lead vocals, naturally, but with backing singers) of a number of ageing popular ditties accompanied by graphics that are simply the words for the song. New lines appear on the screen at appropriate moments and the words are highlighted as each one is to be sung. What more do you need?

One sensible touch is the plain blue background. Why? Well, it means you could easily genlock a live video signal (or any other kind) into the background, making for much merry fun. Is this why Commodore decided to include a genlock expansion capacity in CDTV – so you can see yourself sing along?

The bottom line is it does the job, so you're going to like this disc if you wanna karaoke and you like the songs. It features 20 hits along the lines of *Oh Carol, It's My Party, Will You Still Love Me Tomorrow* and *It's Only Make Believe* - so the less I say, the better.

Verdict AF RATING 75%

reference works. Like the books of this type that are common among eager-minded youngsters, it has an informative purpose – and yet its real appeal is as a darned-good browse. Plus, it's perfect for the sort of technically aware child that will use a CDTV or CD-driven Amiga anyway.

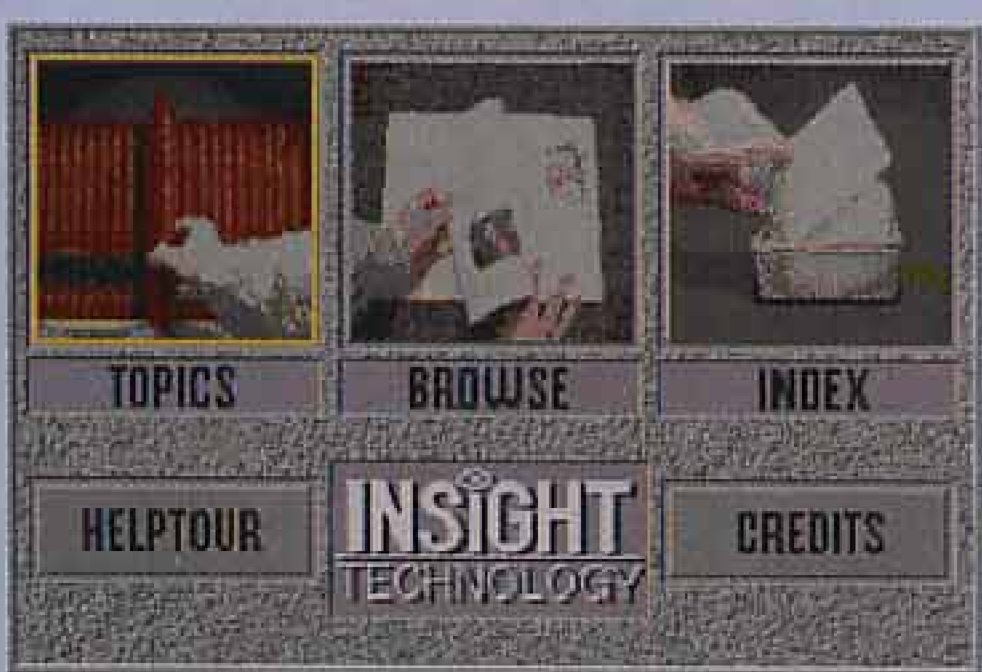
We've made the point before that you might as well use the strong points of the Amiga to good effect in the presentation of CD titles. Optonica have done this beautifully in opting for *Deluxe Paint* animations to illustrate the workings of the various devices and gadgets that this disc covers. Quite apart from looking better than digitised photos, the animations have an appropriate style and feel, very reminiscent of the classic 'how it works' books of earlier generations.

The numerous photographs are well digitised and clear, the text and narration is for the most part informative and interesting. The video clips are still a little unsatisfying but, working within the limitations of the medium, they have made a decent job of integrating quarter-screen video into a polished presentation.

When you're using the disc, you're quite aware that it's been sensibly and simply organised for ease of use, the topics, for example, are selected from a straightforward alphabetical list. You could say that's uninspired, but it works.

It's not a title that entirely lacks faults. Occasionally, the editorial direction wanders a little off the straight and narrow. But these lapses are few and are compensated for by the high quality and high information value of the disc as a whole.

AMIGA FORMAT Verdict 87%



The main screen offers you the options of going straight to the alphabetical listing of topics, or of 'browsing' through them in a number of ways. There's also a comprehensive Help facility to help you out.



Wild, weird, ever-changing graphics and some frantic rave music make this an ideal party support device. And you get the game *Top Banana* thrown in, too!

AMIGA FORMAT GOLD

THE DEMO COLLECTION

ALMATHERA SYSTEMS ■ £19.99 ■ 081-683 6418

What a disc! If you've ever taken any interest in the demos scene at all, you'll know what a variety of animations, music and other clevernesses has been spawned in this fertile cultural and creative breeding ground. Which is a posy way of saying the demos scene is packed full of stuff that's fun, entertaining, amusing or amazing – but manages to avoid like the plague anything that you might consider remotely useful. So be it. If you're not aware of the PD demos scene, take a look at the PD Update pages in this very issue. Meanwhile, on with the review…

Following on from Almathera's *CDPD*, a CD-ROM disc which collected all the PD programs and utilities the makers could get their hands on, this disc does a similar thing for the PD demos scene. If comprehensiveness were an end in itself, these guys would have it sealed up - every noteworthy demo from the entire history of ***Amiga Format***'s PD Update pages seems to have been included.

Naturally what the publishers take no responsibility for is the quality of the material, but there's some good stuff here. The entire Eric Schwartz back catalogue, for example – which would cost you at least £40 in floppies to get hold of any other way.

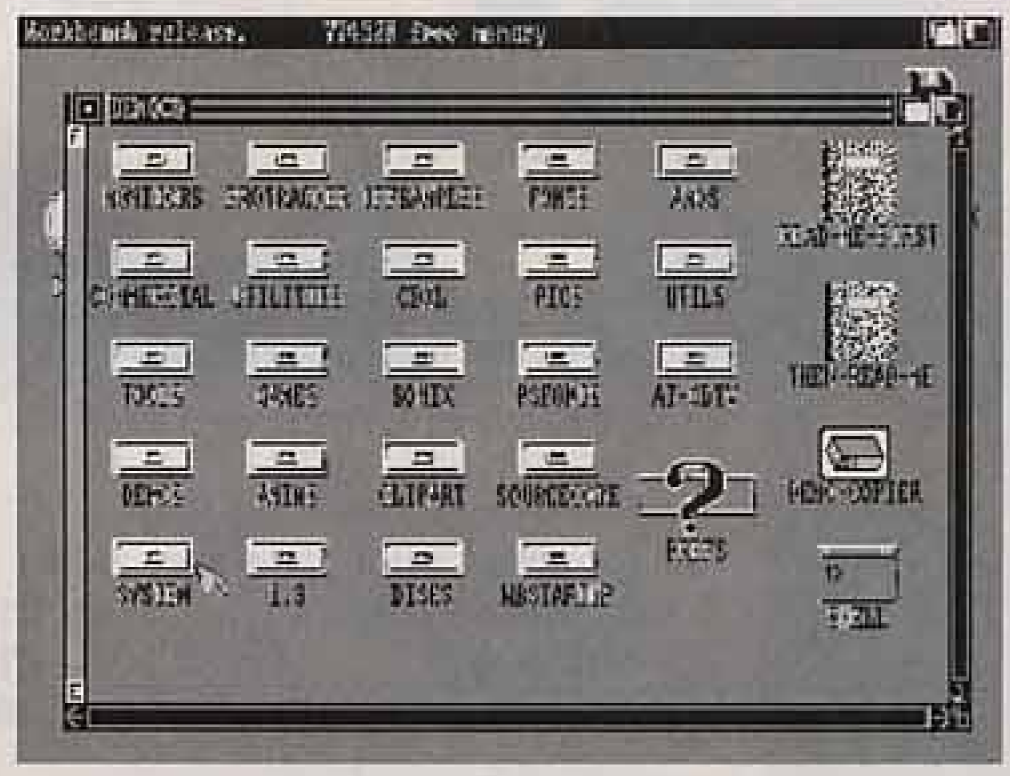
Listing the contents would take all day and it's not quite the point – if you buy this, you're almost honour bound to take a 'goodie bag', 'lucky dip' feel to the thing. But there's bound to be some quantity of stuff in there that will appeal to you. Similarly chancy is whether a particular item will run on your machine (some Schwartz anims need 3Mb, for example, which is tricky on a CDTV). But there's so much good stuff in there it hardly matters.

Compendiousness is one of the great benefits of CD storage and this assortment – though it's an obvious idea – is the perfect example of massive data attack. If in the past you've seen two or three demos that appeal to you, you'll almost certainly find this disc worth getting. Oh, and if you're not convinced, there's even some great PD games on there too…

Verdict AF RATING 90%



This is just the intro screen: fast-moving animation and a choice of tunes. Click to move on…



…to the ever-familiar Workbench screen. Here you can see drawer after drawer packed with demos.



All the familiar names in PD animations are here, including Eric Schwartz, as well as less well-known items like this.



There's also a whole drawerful of games, including the classic *Space Invaders* clone *Amoeba Invaders*.

GLOBAL CHAOS CDTV

HEX ■ £29.99 ■ 0753 686000

Strange ain't the word. This has been described by Hex as 'the rave disc', which is basically what it is. If that means anything to you. If not, then, errm… well, it's a combination of acid-style dance music with 'eternal' non-repeating graphics. It's basically a massive PD music demo with a vengeance.

Put together by the team who first hit the news when constructing music videos, under the name Coldcut, for assorted ultra-hip dance acts, this is very much a product of the 'computer punk' generation. You could see it as appropriating and subverting the multimedia form, if you worked on BBC's *The Late Show* arts programme, but really it's just a bunch of guys with a pretty decent sense of good music and wild visuals having a bit of fun. And fun it is. A number of dance tracks are accompanied by weird, flashing patterns which are semi-randomly generated to give almost endless variation. It's definitely something you could use to give your parties that rave feel. The music's good enough, the graphics are frantic, which is all as it should be.

Thrown in for good measure is Hex's *Top Banana* game, a *Rainbow Islands* clone in gameplay, but with a bizarre and original look that results from its 'sampled' graphics, many of which are highly amusing. The game is fun stuff too. All this adds up to a disc which few enough people will buy, but those who do will enjoy. As artistic expression it should be encouraged.

Verdict AF RATING 78%

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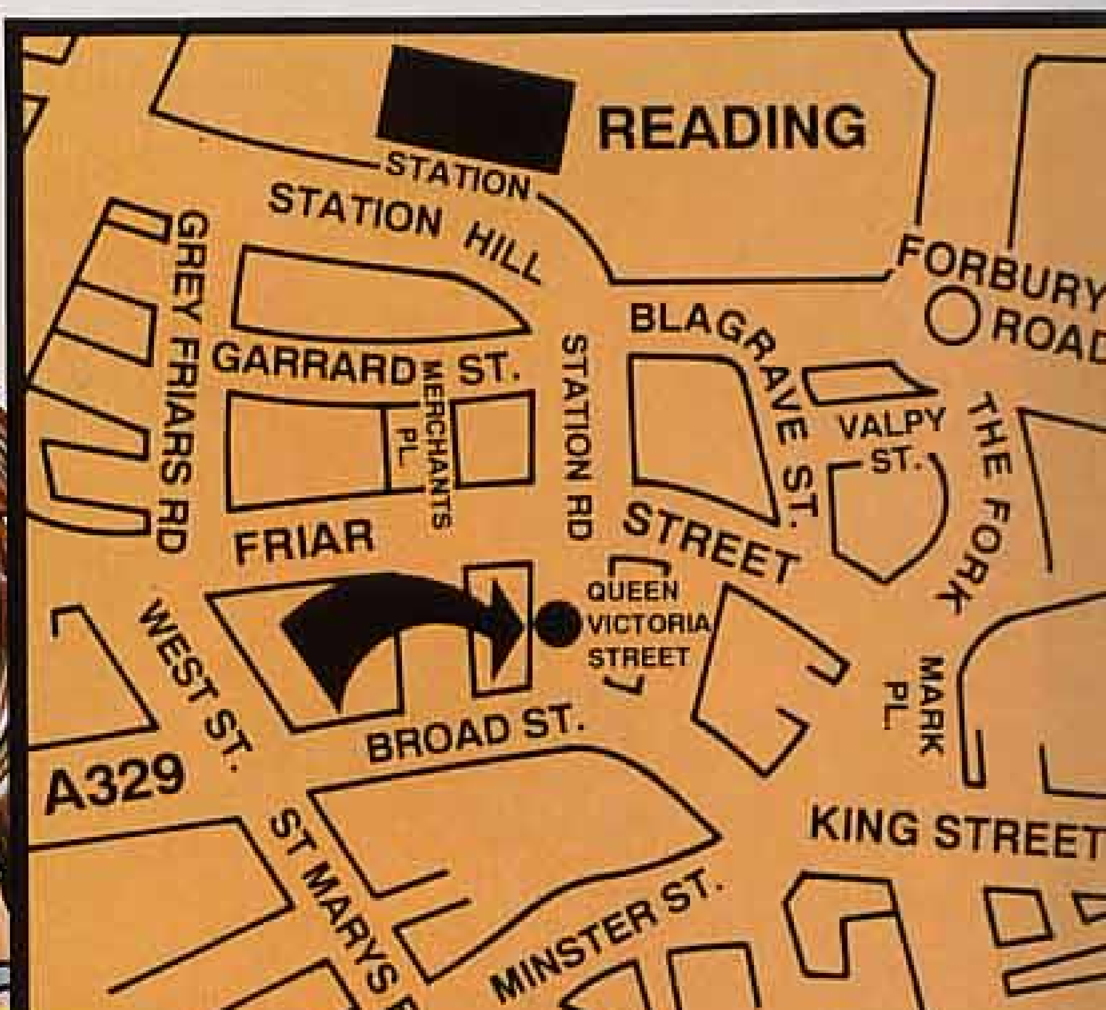
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Your Turn! Part 3

Bullfrog's coding methods revolve around making life as easy as possible, so giving more time to pose in rather ridiculous positions for press photographers. Or not, as the case may be.

How to program your own games in assembler

Moving on to the third part of a continuing series which aims to teach you how to program like the pros. From the team that brought you Populous, Bullfrog coder **Scott Johnston** explores more of the details of our demo game, which is gradually building into somthing pretty playable. This month we learn how to deal with background blocks and collisons...

LAST MONTH WE had managed to get a man, the main character of our game, moving around the screen, under joystick control and properly animated. So far, so good.

But flying a little bloke around a screen wouldn't be much of a game, so it's now time to start adding some of the other elements of the game. During the course of this month we will place the platforms into the game.

The main display is usually the best part of a program to start off with, so that you can get a reasonable idea of how the finished product will look and feel. Many games start off as static background graphics and sprite animations, then the process by which the graphics become a game follows on. Which means we have started he wrong way round.

If you run the demo, your man should fall from the sky, and land at the bottom of the screen. You can't actually see any platforms, but as far as your man is concerned they are already there. Pressing fire will bounce the main sprite around, and you will find that he can stand on the platforms.

Quit out of that, and have a look inside the draw.s file. The reason we don't get all the blocks drawn on the screen is because the command

```
dbra d4,.loop_y
```

has a semi-colon in front of it. Remove this and recompile. You should now have the level

Continued overleaf

on screen. See if you can get to the top! Not that difficult, really, eh?

Fed up of that level? Then go into `move.s` and remove the semi-colon from in front of the `LEVEL` equate. Now when the program is compiled you will have a different level to try and climb. Fall down the gap at the bottom of the screen, and it will be time to quit and rerun the program.

You can change several of the equates to make the 'game' easier or harder to play. GRAVITY is the speed at which you slow down on your jump. JUMP is how high you will go. LEFT_FOOT and RIGHT_FOOT control how far off a platform your man can stand - decrease LEFT_FOOT and increase RIGHT_FOOT to make it easier. The rest you already know about.

That's great, but you may well be asking yourself 'how does it all work?' Well, the two routines that draw the block background are _draw_blocks and block_draw.

The first scans through the map data held inside data_c.s. If the number picked up is not a zero then there is a block to be drawn. This block number, as well as the x and y position of the block, is then passed to the block_draw routine. The first part of the drawing routine sets up where to draw on the screen. The loop picks up four words of data, and places them down in the right place on the screen. At present this is only a block draw, which means that anything behind it is not visible. To change it so that you could see through, you would have to create a mask for the data.

GAME DESIGN OVERVIEW

To turn this into a platform game, we need to know the order in which we have to do things. Listed below is a simple pseudo-code example of the processing order. It includes any objects that need to be picked up and any enemies that need to be drawn.

1 Initiate level.

2 Clear the screen.

3 Draw blocks.

4 Draw objects.

5 Draw bad guys.

6 Draw hero.

7 Move hero – includes x,y and animation of the sprite for our man.

8 Move bad guys – again this also includes x,y and animation.

9 Collision check on objects – has the hero touched an object?

10 Collision check on baddies – has our man just touched an enemy?

As you can see, we still have quite a lot of work to do. But saying that, now that we have broken down the task into easy sections we can bolt on new bits every month over the next couple of months.

THE SCREEN

In low-resolution 16-colour screens, each pixel is stored as four bits. Unfortunately the bits are not stored consecutively, but as a single bit in each of four words. These words are known as bit-planes.

The first word of screen memory is the first word of plane 0. The second word of memory is the second word of plane 0. Thus we fill the whole screen with plane 0 before we move on to plane 1.

Again the whole screen is filled, before we move on to plane 2, and then plane 3. Thus 32000 bytes are used in total. The first 8000 bytes are plane 0, the next 8000 bytes are plane 1 and so on through planes 2 and 3.

For a colour to be displayed on screen, the computer looks at the data in the bit-planes. Each pixel on screen has bits in the bit-planes set. These bits go to make up the colour of that pixel. For example: if all planes are set, the colour value is 1111 or 15.

Plane 0 sets the right-hand bit (bit 0). If we clear plane 0 then the colour we get is 1110 or colour 14.

Another example: plane 0 is set and all other planes are clear, so the colour is 0001.

THE MAP

The map is stored at the bottom of the file data_c.s. You can change this to your heart's content, and so make the game easier or harder to complete. If you feel up to it you can try to make the background scroll up and down with the man, as he jumps about. Experts only need apply for this bit. Don't worry if you can't do this, as the final version of our game will not have a scrolling background.

SNEAK PREVIEW TIME...

Bizarre situation at this point, I'm afraid. We're going to go a few steps further this month, but unfortunately we didn't have the time and the space to get the code on the disk.

so you're going to have to wait until next month to put his into practice, but for now give it a read through and see if you can understand what's going on. It's pretty easy.

The will be quite a lot of changes to the code – the number of files on the disk will change, making it easier to figure out what is going on. The files we are most interested in are these:

```
equates.i
structs.i
init.s
draw.s
move.s
data_c.s
```

Even without the code and from just the names, you should realise that three files you have not seen before are the `equates.i` `structs.i` and `init.s`. All the equates from `move.s` are going to be placed into the file `equates.i` because this helps in trying to track something down, or change a figure.

The major addition to the new program will be the ability to collect something – and to die! When you run the code, you will see a screen with five Golden Ankhs on it. To collect something our man must touch these.

When you try the code on next month's disk, you will find that the ankhs don't disappear. That is due to the fact that we, or should you, have not written the collision code yet.

OK. Re-run the code and take a dive from one of the top platforms to the floor – the man will die. That is it for that game so far – only one life at present.

The ankhs are in what is known as a structure. These are brillant things, in that you can define several variable names and control more than one thing with them. These names are held inside the structs.i file and are:

```
OBJ_ON          equ     0
;does the object exist
OBJ_STATUS      equ     0
;what state is it in
OBJ_TO_DRAW     equ     2
;Where to get x, y and frame in one
OBJ_X           equ     2
;where on the screen is it
OBJ_Y           equ     4
;y version of above
OBJ_FRAME               equ     6
;what is the frame being dis-
played
OBJ_SIZE        equ     8
;how big is each object
```

The numbers represent which bytes are used by this information. The numbers are all even because I am using word-sized variables due

NEW COMMANDS

`DBRA     d0,label`

The dbra command, or Decrement and Branch. This is a very useful command in that you can create loops easily and quickly. The number of times to loop is held as 1 less than the actual in d0. This is because the test that is performed is the equivalent of a BGE. So the similar code written without the dbra command is:

```
-move.w #5-1,d0 ;set up a counter
.loop_to_here
Do What Ever.sub.w      #1,d0   ;subtract from the counterbge
.loop_to_here   ;loop if d0 is not negative
```

`BTST     #1,d0`

Bit Test. This command checks whether bit 1 in register d0 is set to a one or not. The bits are numbered from the right-hand side, starting at 0 and moving up to 31 on the left.

THE COLLISON DETECTION ROUTINE

```
move.w      man_x,d0            ;pick up our man_x position
asr.w       #FOUR,d0            ;scale down to a screen co-ord
move.w      man_y,d1            ;pick up our man_y position
asr.w       #FOUR,d1            ;scale down to a screen co-ord
move.w      d0,d2               ;take a copy of x
add.w       #MAN_WIDTH,d2       ;and add the width of our man
move.w      d1,d3               ;take a copy of y
add.w       #MAN_HEIGHT,d3      ;and add the height of our man
lea         _objects,a0         ;point at our objects
move.w      #MAX_OBJECTS-1,d7   ;counter of how many objects
.looptst.w  OBJ_ON(a0)          ;is the first one present
beq.s  .next                    ;no so lets look at the next
;one
move.w  OBJ_X(a0),d4            ;yes it was, get the object x
move.w  OBJ_Y(a0),d5            ;and y values
cmp.w   d3,d5                   ;Is the bottom of the man
;greater than the top of the object
.bgt.s  .no_collision     ;yes then we cant collide with it
add.w   #ANKH_HEIGHT,d5   ;move to top of the object
cmp.w   d1,d5             ;is the top of the man less than the
;bottom of the object?
blt.s   .no_collision     ;yes then we cant collide
cmp.w   d2,d4             ;compare right of man with the left
;side of the object
bgt.s   .no_collision     ;if it is greater then we cant collide
add.w   #ANKH_WIDTH,d4    ;move to the right side of object
cmp.w   d0,d4             ;compare left of man with right side
;of the object
blt.s   .no_collision     ;if less than then we cant collide
move.w  #0,OBJ_ON(a0)     ;clear out the object as we touch
sub.w   #1,to_collect     ;reduce the number left to get
move.w  total_levels,d6   ;as compute the score
mulu    #SCORE,d6         ;that is received by getting object
add.w   d6,score          ;score = level * multiplier
move.w  #DELAY,delay      ;place a delay to stop instant
jump.next                 ;we want to get the next object
.no_collision
;because the last did not exist or we didnt touch it
.lea    OBJ_SIZE(a0),a0   ;so move the pointer to the next
dbra    d7,.loop          ;repeat until there are no more
;objects
```

to the fact that we have loads of memory to play with.

If this was a full-sized game I would probably be using byte-sized variables for anything that I could, just to save space. One thing to note, though, is that byte-sized variables tend to be slower, as they must be extended into words before they can be used. In Powermonger, for example, the people took up 50 bytes each, and there were up to 512 people to each map.

The variable name OBJ_TO_DRAW is there for the purpose of clearer movems. It is always a good idea to stick in extra labels for this kind of thing because when you try and read your code several months or even weeks later, you may not see the relevance of `movem.w OBJ_X(a0),d0/d1/d2` whereas `movem.w OBJ_TO_DRAW(a0),d0/d1/d2` is a lot easier to understand.

Adding helpful equates and labels does as much for the readability of a program as decent comments. It's a good idea to have virtually NO numeric constants in your code. All right, so there are loads of them in the demo – but that's because I was being lazy.

The memory is reserved for the objects at the end of data_c.s and again shows good use of equates. OBJ_SIZE is the number of bytes used per object, and MAX_OBJECTS is the number of objects we can have. Therefore if we change our mind on how the objects are held, or how many we can have, all we need to do is change the equates, rather than having to go back into data_c.s.

The objects are defined inside init.s which uses a jump table to decide which level we are currently on. The most obvious way to do this would have been…

```
cmp.w   #LEVEL_1,d0
beq     level_1
cmp.w   #LEVEL_2,d0
beq     level_2
cmp.w   #LEVEL_3,d0
beq     level_3
```

and so on. The problem with this is that if we had loads of levels then we would need loads of compares. Whereas a jump table does exactly the same thing faster, in less space and is just as readable. Compare that with this…

```
move.w
.jump_table(pc,d0.w),d0jmp
.jump_table(pc,d0.w).jump_tabledc
.w level_1-.jump_table
;1st leveldc.w  l e v e l _ 2 -
.jump_table
;2nd leveldc.w  l e v e l _ 3 -
.jump_table
;3rd level
```

OK, the next step is to put the collision in. In the separate panel, there's a listing of a routine should do just that, which you will need to type in. You don't have to type the comments in if you don't want to, but they will help a lot if you ever come back to the routine. The extra code goes in the bottom of file move.s after the label _collect_collision.

Typed that? Good. Sorry there is so much of the stuff. Did you understand it?

Recompile and run the program: you should now be able to pickup the Ankhs at the top of the screen. If you put a semi-colon in front of the move.w #DELAY,delay you will see (next month, I'm afraid, when you run this lot) that if you complete the level, you will instantly flash to the next one rather than waiting for a second or so.

Take a look at the panel on masking next and try that out. Then there's a few other things you can try to do for yourself.

One: change the score equate, to have massive high scores and so on. The score, incidentally, uses a single colour font draw which when passed an x and y position in d0/d1 and a2 pointed at the text to display, is only capable of holding 5 digits at the present, but that should be easy to change.

Two: Add new levels to the game. Increase MAX_LEVELS to reflect the new number, and there you go.

Three: Change the font draw into a masked font draw, and give it the ability to display more than one colour.

Next month: enemies and music!

MASKS

At present the Ankhs are not being masked as they are drawn. This means that if they were placed in front of a platform, the platform would disappear. The most difficult area of programming animations to understand is the principle of masks. If you position a sprite on the screen, the block containing the sprite will affect the colours already there. To overlay the sprite properly against the background, you first need to create and position a mask which changes the screen colours in the area of the sprite block.

Now when you lay the sprite onto the screen, the colours of the mask change back again to the correct orginal colour.

Confused? A mask is a block of data which has a bit set for every pixel that is blank on the sprite block. The mask can be 'AND.W'ed with the background data, before you 'OR.W' your sprite data to draw it on the background.

If you look inside draw.s at the routine _draw_collectables you will see that we have no mask. You can calculate this when you draw your sprite by replacing the four move.w d?,?(a0) with the following piece of code.

Please note that, as throughout this month's piece, some of the comment lines have been wrapped to the next line.

```
move.w  d1,d5    ;copy plane 0 into d5
or.w    d2,d5    ;or plane 1 with d5
or.w    d3,d5    ;or plane 2 with d5
or.w    d4,d5
;or plane 3 with d5
not.w   d5
;invert d5 to create mask
and.w   d5,(a0)
;mask background (plane 0)
or.w    d1,(a0)
;combine with sprite plane 0
and.w   d5,PLANE_SIZE(a0)
;mask background (plane 0)
or.w    d2,PLANE_SIZE(a0)
;combine with sprite plane 0
and.w   d5,PLANE_SIDE*2(a0)
;mask background (plane 0)
or.w    d3,PLANE_SIZE*2(a0)
;combine with sprite plane 0
and.w   d5,PLANE_SIDE*3(a0)
;mask background (plane 0)
or.w    d4,PLANE_SIZE*3(a0)
;combine with sprite plane 0
```

Though, as you can see, this takes quite a lot of instructions, it would be much easier if we stored a copy of the mask with our data, then the top half of the above code would not be needed.

Civilization

Are you having problems with the dawn of your Civilization? Well, fret not because she always was an awkward modom wasn't she? Here's a player's guide to Sid Meier's latest epic

THE FIRST THING you should remember is that there is no right or wrong way to play *Civilization*. The most enjoyable level of play is Warlord, with four civilisations competing. Choose your tribe wisely because each leader is very different. For example, Genghis Khan (Mongols) can be expected to be very aggressive at the expense of his own cities, but Mao-Tse Tung (Chinese) is generally concerned with building a strong civilisation and doesn't seek to expand aggressively. The leader biographies can be found in the manual on Pages 112-115.

Whenever you play the game it's always an advantage to have the Civilization Advances Chart (found in the very back of the manual). This can help you build more advanced units quickly. If in the early days of your civilisation you concentrate on the above advances you can build the catapult unit, which is usually stronger than any of your enemies' units – unless they have better technology, that is. Try to lower the tax rates early on – this will increase your science rate.



Pay regular attention to your towns using the Townplan map. This is the way you can be sure which defensive units you have installed, and find out how the natives react to having their cash spent on military hardware.

Fortification

1 The first units you acquire should be selected for defensive, offensive and mobility factors. Defend your home city first, but use more mobile units to open up the frontiers of your civilisation. Your first two militia or other military units should be used to defend your city or fortify the units on the city. If you fortify the units elsewhere, an enemy could destroy all the units in one move.

2 Whenever a unit becomes technologically old, always replace it for a more capable unit. For example, replace the Cavalry unit for a Knight unit when it becomes available.

3 Across the world there are minor tribes – by moving on to them you can uncover wealth, wisdom, friendly tribes or angry barbarians. You should only move a military unit with a high-defensive factor on to these squares.

4 When the technology arises you will be able to set sail, first of all in Triremes – these are not deep-water vessels and so can be lost at sea very easily, so watch out. It's always a good idea to keep them near to the coast, but if you get an opportunity to go to the nearest unexplored land mass then go there, but don't stay too long. You should carry other units on the ships: a diplomat, a strong military unit and a settler. With all these units you should be able to cope with any problems that arise.

When playing *Civilization* you can play defensively or offensively, but usually you play both. Begin by building up your defences and technologies and making peace treaties with other civilisations.

If a neighbouring civilisation becomes a threat or a problem you will need to open hostilities, but before you do this you should get an idea of the enemy's technology level. To do this you will need to establish an embassy in an enemy city – use a diplomat. If the enemy is more technologically advanced than you, then you might consider postponing your aggression until you are more evenly matched.

Playing catch-up

You can catch up with the enemy in one of four ways:

1 Concentrate on research, building libraries and universities and devoting a larger portion of your revenue to scientific research.

2 Exchange technologies with friendly civilisations, but preferably not with one which you are about to go to war with.

3 Build the Great Library wonder, so whenever two other civilisations obtain the same advance it becomes yours as well (for free!).

4 Steal the technology by using a diplomat. When you're at war don't be afraid to rest during a long campaign. It is possible to go too far, exhausting your resources and your people's willingness to fight. From time to time your enemies will offer to make peace with you – if need be, accept the treaty and use the time to build-up your combat forces and your treasury.

During the respite from war, place ships on sentry outside enemy harbours, post sentries along land borders and fortify units around enemy cities. Have diplomats ready to undertake spy and sabotage missions as soon as hostilities are resumed.



Building specialised buildings in your cities is the best way of helping your population advance and stay happy. Libraries, universities and cathedrals are the best antidotes to troublesome peasants.

Later on in the game you will be faced by the nuclear dilemma. This could be either because your use of nuclear weapons will lose you points during the game, or because an enemy threatens you by saying 'Our words are backed by nuclear weapons!' (time to change your underpants, methinks). This warning should be carefully heeded.

Although an enemy is unlikely to use nuclear weapons, try to build an SDI on your capital city and other important cities. Use of nuclear weapons speeds up effects such as global warming and polar melting. If you use nuclear weapons you should have plenty of settler units in readiness to clean up the mess.

Nuclear warheads are best used as deterrents, never as weapons.

There are two ways to win at *Civilization*: either defeat all other civilisations or win the space race to Alpha Centauri. First of all, to win the space race you must complete the Apollo programme, and after this you will be able to build parts for your spaceship – SS Structure, SS Module and SS Component. Your goal is to build a spaceship that can hold as many colonists as possible, yet travel at a reasonable speed and with reasonable probability of success. Keep an eye on construction as it proceeds. All characteristics should be 100 per cent or above.



***Civilization* is a huge game, with world-sized problems. There are two ways to be a success, but even more ways of being a failure. So take help when its offered.**

What's it all about Alpha?

1 The more propulsion units your starship has, the faster it reaches Alpha Centauri. The more colonists you attempt to transport, the more your starship will weigh.

2 Guard your capital. Losing it brings your interstellar programme to a very quick halt…

3 Watch the clock. You must reach Alpha Centauri before your reign expires.

4 If other civilisations launch before you, make a mad dash for their capital in the hope of capturing it before their starship reaches its destination.

5 Don't launch unless your arrival time is less then 20 years. If it is add more fuel and propulsion units.



Helping Hand

It's that time of year again, when everyone's minds begin to turn from boring old work to that pleasurable thing that people do on early nights. Yes, we're talking about playing games. **Andy Nuttall** offers this month's helpline for the bewildered....

HEART-WARMING TIPS



Are you feeling a bit 'Chi' sed off with getting out of Katmandu? Or even Kathmandu? Then you're probably playing the excellent *Heart of China*...

After having given *Heart of China* such an excellent review in issue 32, I would have thought you might have included a slight hint or tip for it by now – but, alas! I have found nothing. I just can't get out of Katmandu. Please help.

Yvonne Caplan
Edinburgh

£25

Once you've landed at Katmandu, Chi will talk to Lucky. From the menus that follow, choose 3, 3 then 3. Lucky will leave, so enter the plane and pick up the blanket and the tarpaulin. Exit, put the blanket over Kate and the tarpaulin between the fuselage and wheel. Give Kate the healing and ninja herbs. You should now be rescued. Talk to Ama, then choose 3 and 2 from the menu. Exit to the street, go past the top centre of the screen. Click on the door handle, then talk to the disciple – choose 2 then 2 from the menu. Exit to the town. Enter the telegraph office, talk to Nalina, exit to the street. Exit left, and talk to Kubla. Choose 3 and 2 from the menu. Pick up the cigar box, exit to the street, then go back to the Lama's. Open door, talk to Lama, choosing 3 then 2 from the menu. Exit to street, then exit to tavern. Talk to the barman, choosing 3 and 2 from the menu. Talk to Sadar, then to the barman. When Chi buys a round, talk to Sadar again, using 3 then 1 from the menu.

Exit to the street, enter Ama's house, talk to Kubla. Give the cigar box to Chi, call up Chi's inventory, place the chopsticks and the coins on the box. Give the car to Lucky, change to Lucky and give the car to Kubla. Pick up the hose, exit to the street, go back to the Lama's and talk to him. Choose 2 then 2 from the menu. Exit to the street, go to Bojon's office on the right. Talk to him using 3, 2 then 2 from the menu. Exit to the street again, go to the tavern, and talk to Sadar using 2 then 2 from the menu. Give Lucky's gun to Sadar, which will cause a revolt by the villagers. They will help you with your plane, enabling you to leave Katmandu!

Congratulations to J H Andrews of Norfolk, who wins a £25 voucher for his solution.

Lurid Difficulties

I seem to have run into difficulties in Lure of The Temptress. I have started the distilling process on the apparatus, but I have nothing to pour the liquid into – the bottle smashed on the way down. Can you help?

Also, how do I get into the Apothecary?

Jim Brooks
Bognor Regis



***Lure of the Temptress*: a game filled with skorls, apothecaries and transvestites...**

Aha, this is a taxing problem. What you must do is talk to Mallin who will give you a metal bar. Give it to Ewan the shopkeeper and get the gem from him, then give that to Nellie the landlady. In return she will give you a flask, which you should use to hold the liquid.

To get into the Apothecary you must first set Goewin free. She is being held at the Town Hall, and you must find a way of getting past the Skorl guard who is holding her there. I'm not going to tell you how, but let's just say that an alteration of your hormone balance will make life a lot easier...

Management proposals

Does anyone have a cheat or a hint for *The Manager* by US Gold? I've been playing it for ages, and I can't get anywhere!

Rupert Morgan
London

You're in luck. Set up a two or more player game, and make one player put a Forward on the transfer market. The other player must then offer some money for this Forward. The first player should refuse, and remove the Forward from the market. The Forward will now have a goal scoring record of 125-150 in the season, and will automatically win the top scorer award!

Also, if you set up a four player game and make three teams borrow one million pounds each, the first team's calculated mean will drop to zero causing sponsorship funds to quadruple in value. Sounds like a bit of a Maxwellian cheat to me, but there you have it. Thanks to Steve for the tips.

Don't eat with your mouth open!

Knightmare could be a super game if only my characters could eat! They've got rabbit pies and sweets but no mouths it seems. Also, I would like to know how does one 'keep the pad down' in the first dungeon.

I enclose a SAE and implore your help!

Margaret Duddridge
Axminster

Before we give you a hint I must remind you, along with the other 20-or-so readers who send in SAEs each week, that we can't give personal replies to any enquiries. The reason for this is that we really don't have time to do it. All the SAEs are given to the local OXFAM charity for their stamp value.



You know you're having a *Knightmare*, when even eating food is difficult...

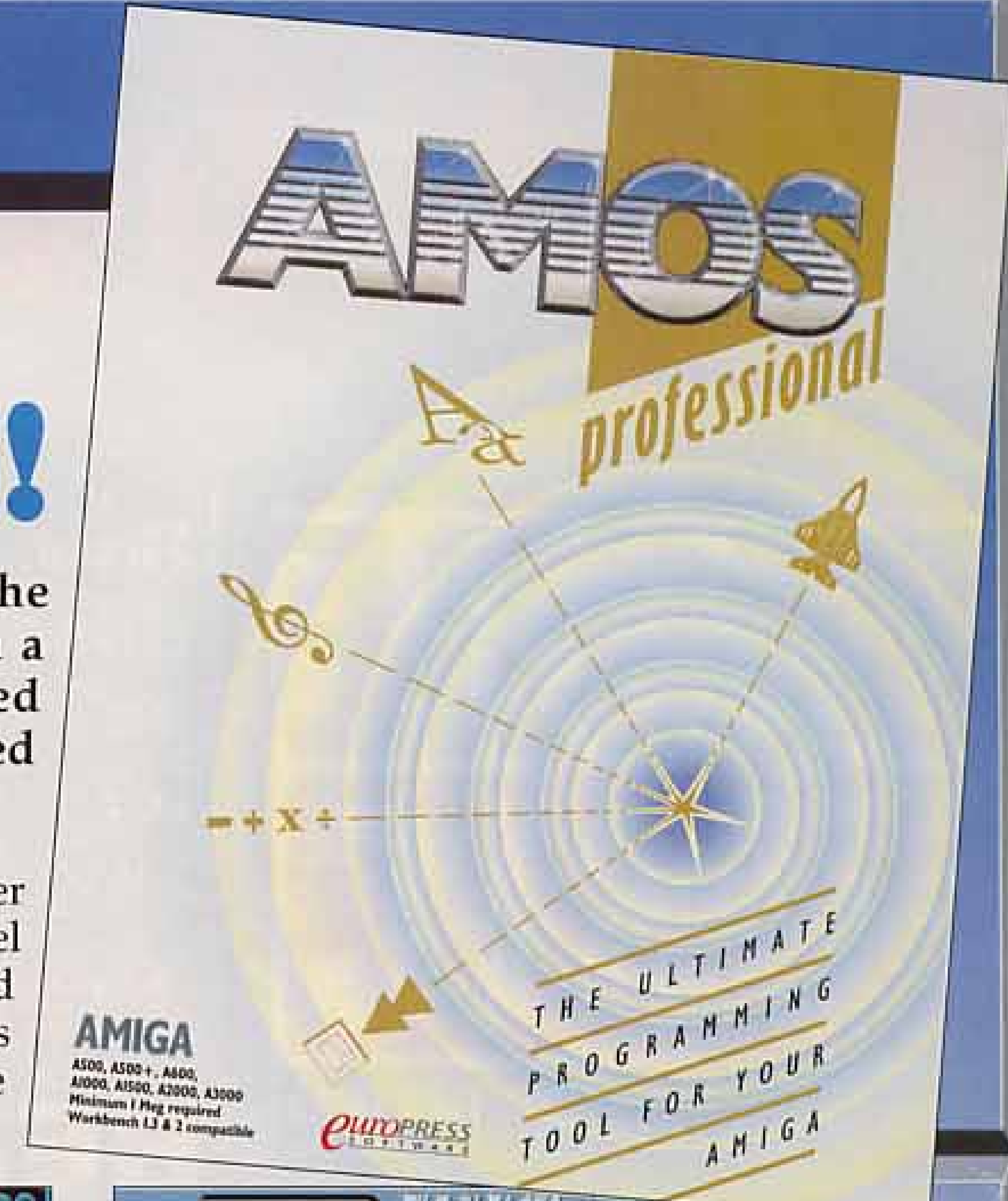
To eat the rabbit pies, sweets and other food items, simply place the food on the hand icon, then click on the food with the right hand mouse button. Now click the left hand button on the Eat icon which will be displayed, and your character will consume heartily. Another good source of food is the garden, which can be dug over using the shovel to reveal a plethora of apples.

To keep the pad down, it is necessary to drop an object on it. Make sure you drop something trivial and unimportant such as a rock, though, as you must leave the item behind as you move on in the game. The Knightmare Adventurers' Handbook *is available from Mindscape on 0444 246333.*

LOST

Many millions of evasive young whippets, all answering to the name 'Hints 'n' Tips'. Great rewards of £25 and £50 vouchers given to any persons offering information. No Action Replay cheats please, as these impostors will not be given house room. Any questions regarding the animals and their parents, that is 'Amiga Games', will also be welcome, and will be answered forthwith. Until next month, then...

If you're stuck on a particular game or have a solution to a letter printed in the magazine, then write it down and send it in to us at HELPING HAND Amiga Format, 30 Monmouth Street, Bath BA1 2BW



Now AMOS has turned Professional!

AMOS The Creator has brought programming within the reach of over 50,000 Amiga users. Now it has been given a complete overhaul and the result is a vastly enhanced product – AMOS Professional – designed for all experienced Amiga programmers.

AMOS Professional has 200 new commands, taking the total to over 700. Included in the package is a 650-page manual written by Mel Croucher who wrote the highly-praised Easy AMOS manual, and Stephen Hill who wrote the original AMOS manual. Programs written using earlier versions of AMOS and Easy AMOS can be loaded into AMOS Professional for amendment or enhancement.



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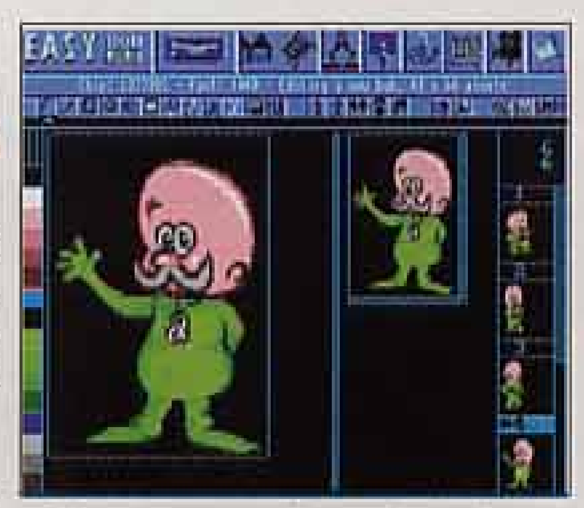


You can get serious too – File O' Facts shows just what's possible

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- MED music library support with MIDI data send, Noise Tracker support, easier access to the printer, serial and parallel ports and much more.
- MOUTH commands to link sprites to speech output from the SAY command to create a realistic talking head.
- Two discs crammed with working examples, and tutorials demonstrating AMAL, the new AMOS Interface system, collision detection and other key topics.
- A selection of new highly-finished programs, including Planet Zybex (a scrolling shoot'em up), File O'Facts (electronic data organiser), Quatro (puzzle game) and Dithell's Wonderland (an eight-way scrolling platform game).

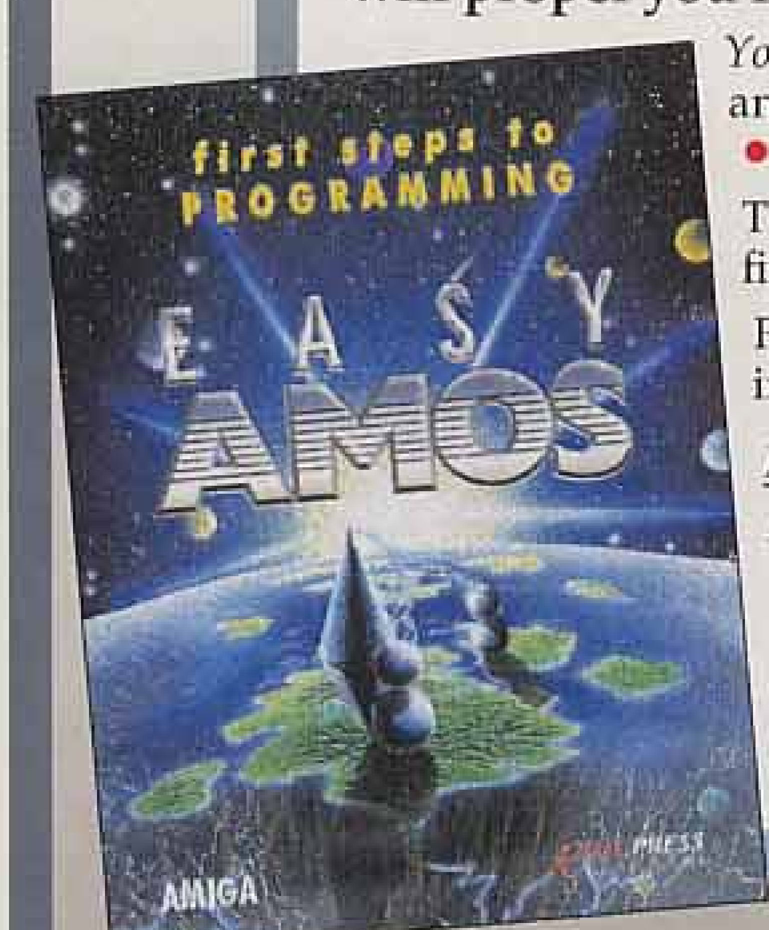
The result is a package which will more than satisfy home and professional AMOS users. It's fun to use, lots to learn – it's essential for the Amiga.

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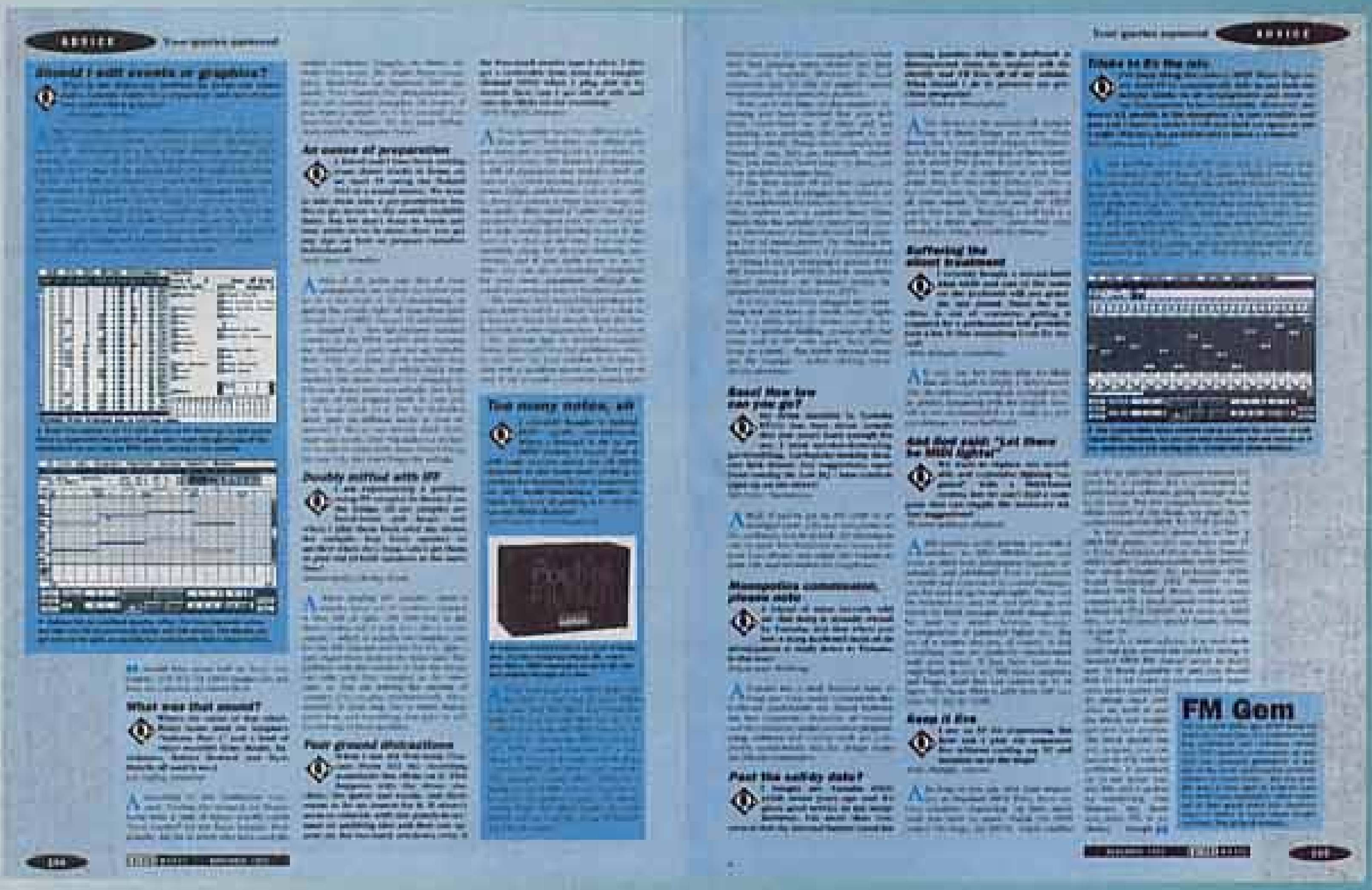
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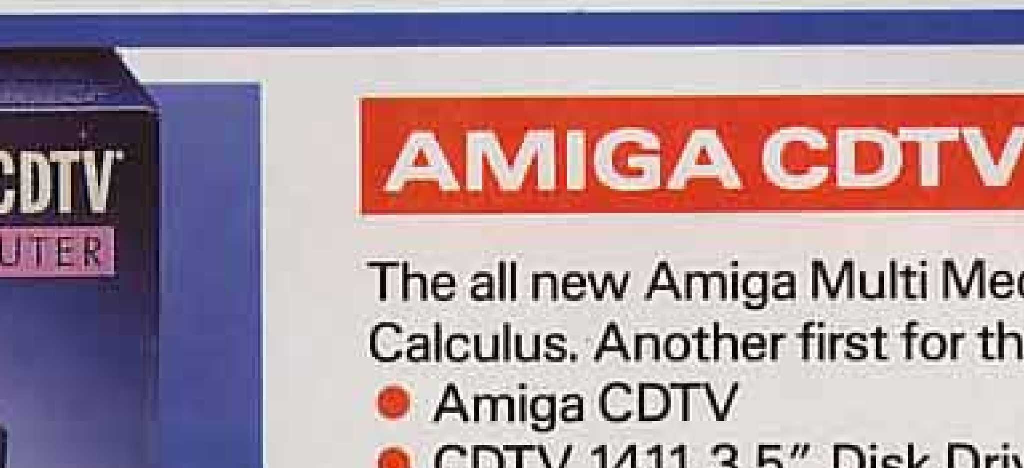
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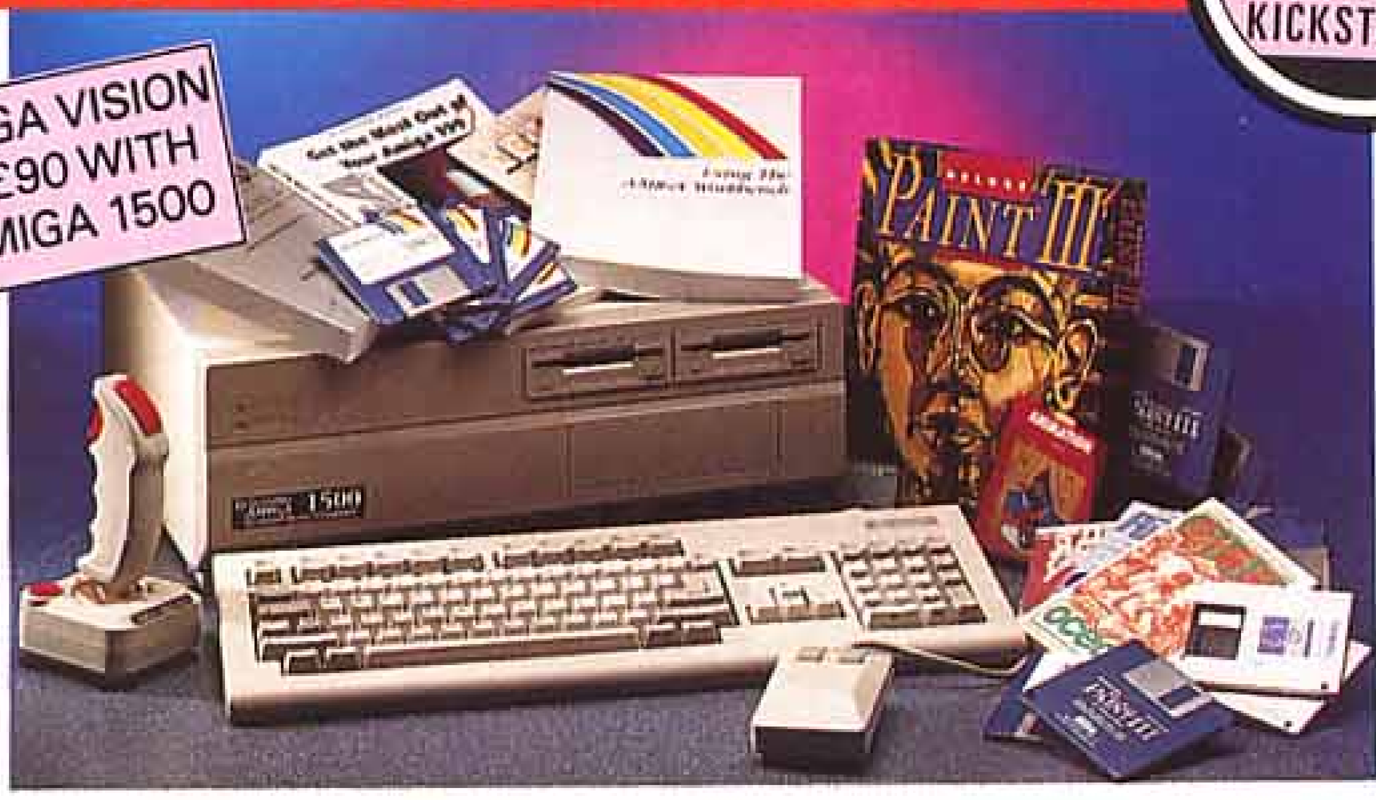
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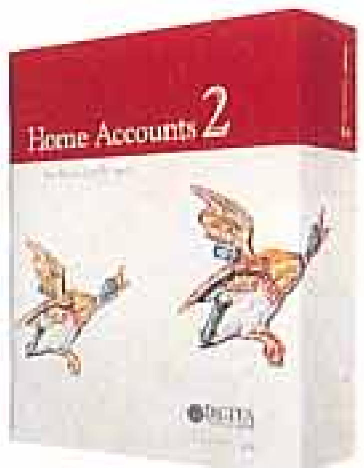
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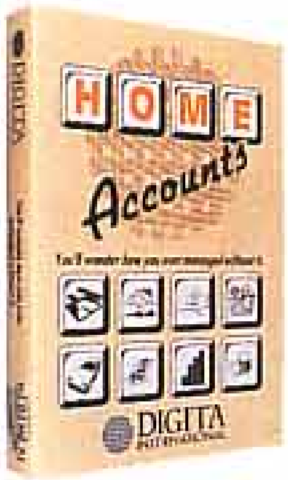
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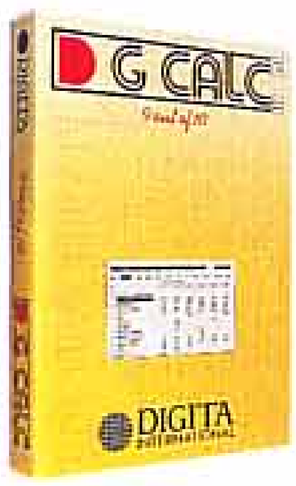
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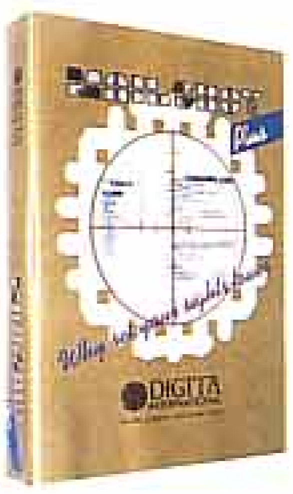




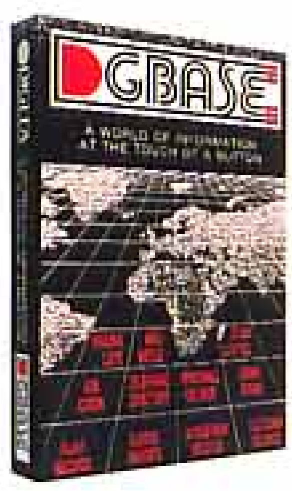
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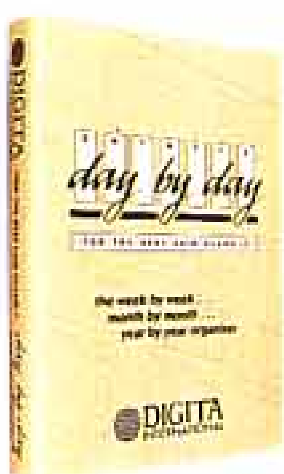
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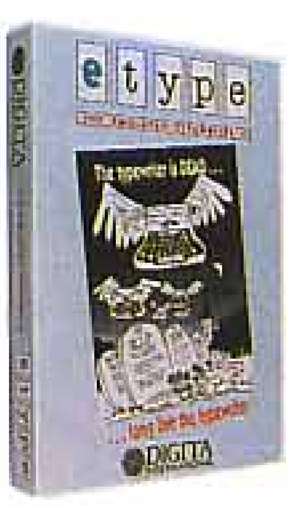
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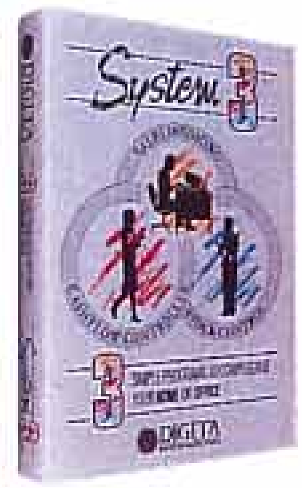


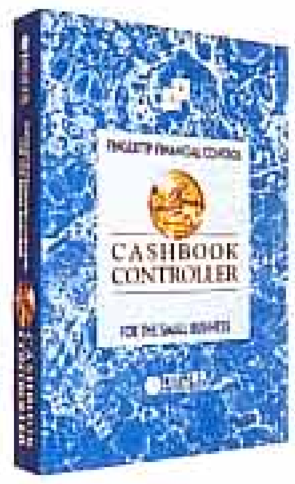


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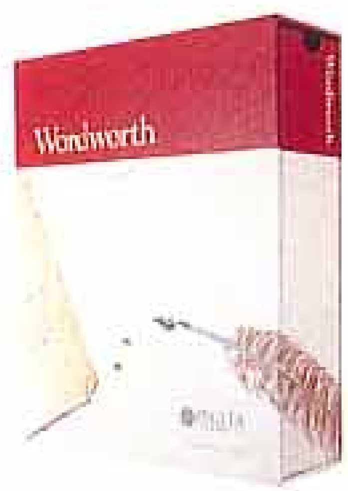


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Let's get serious!

Welcome once more to the part of the magazine in which we review the latest in creative software, utilities and hardware. Reviews editor **Neil Jackson** is your host, and this month we've got some of the most exciting releases we've seen in a very long while...

Our review policy

Amiga Format has been voted 'magazine most influencing buying decisions' by dealers in trade magazine *Computer Trade Weekly* for three years running. That's because they know our reviews are the most trustworthy: what we say, you seem to agree with.

Simply enough, that's because a) we know what we're talking about, and b) we're honest. We know what you want, because we're Amiga enthusiasts ourselves. And because we're Amiga experts, we test everything to the full and see how it performs.

If something is let down by poor features, if it's difficult to use or if it's overpriced, we'll tell you. But on the other hand, if it's well worth the price or does something amazing we'll make you aware of that – and look out for the ***Amiga Format*** Gold award which distinguishes a truly excellent product, one that really stands out from the crowd.

How the Rating System works

SPEED (marked out of 5) ●●●●●
Tremendously important for both hardware and software: there's nothing more annoying than waiting. A purely intuitive judgement.

DOCUMENTATION (out of 5) ●●●●●
Although there are some packages that are so simple that no manual is needed, complex items benefit hugely from a good explanation.

ACCESSIBILITY (out of 5) ●●●●●
The target for all good software should be powerful but simple: this rating assesses how easy it is to get to grips with the item.

FEATURES (out of 5) ●●●●●
Does it do what you want it to do? How well does it do it? And does it also do lots of other things that you'd never have thought of?

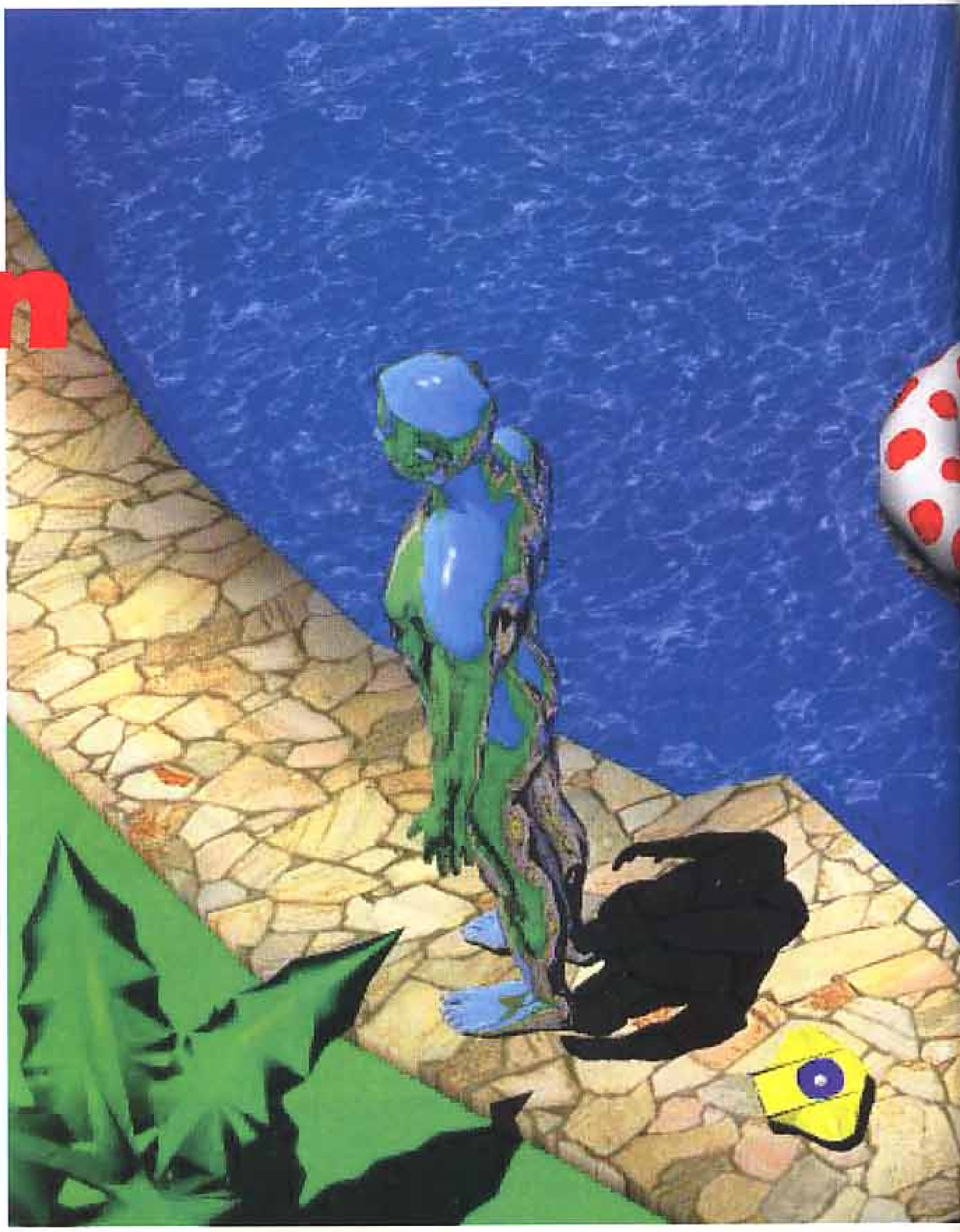
VALUE (out of 5) ●●●●●
A pretty important rating, this one: if a package does everything you could wish for, it's no use to you unless you can afford to buy it.

AMIGA Verdict FORMAT — The Verdict, our at-a-glance overall rating, is a percentage: it's based on sheer quality, but with price taken into account, so that you know what kind of a deal you get.

In one mighty bound, Amiga graphics software has caught up with the Apple Mac's. Painter, PixelPaint and PhotoShop had better beware as **Brian Larkman** contracts...

OpalVision

True Colour art package ■ £800
Opal Tech & Centaur Development



Feast your eyes on this – a ray-traced image rendered with the OpalVision card. Such astounding results make this new system the art package to be reckoned with.

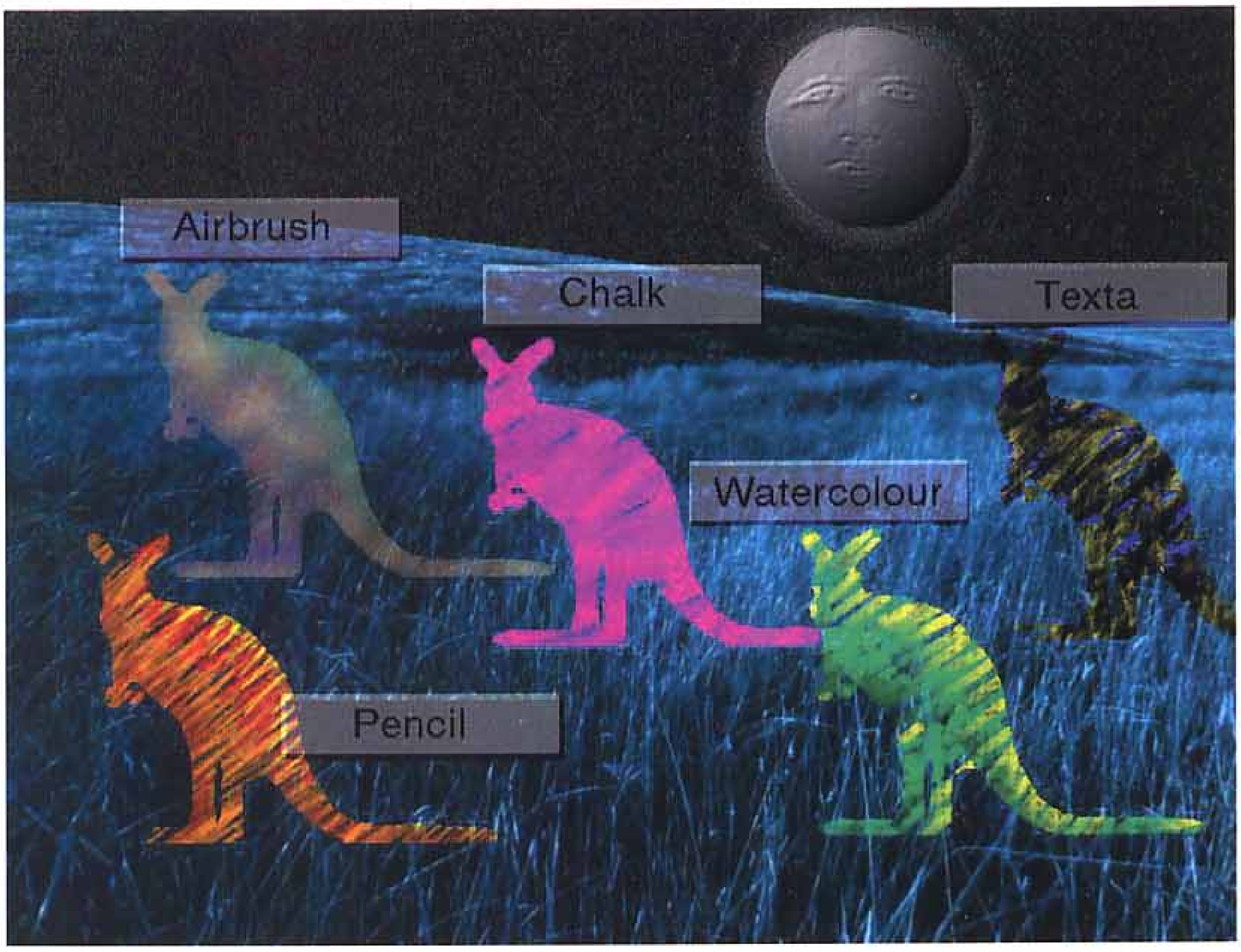
MOST ARTISTS AND illustrators working with computer graphics have a wish list of requirements from a painting system: things like real-world behaviour of material; chalk that seems chalky; watercolour that looks wet; an airbrush that makes feather-light clouds of colour rather than coarse splatters of dots; and textured surfaces to give depth and feel to their works. Combine that with masses of excellent image-processing effects, multiple stencils, plus a decent visual retrieval and archiving system for pictures and brushes, and you have a lot of very happy graphic artists. Amazingly, OpalVision – a new 24-bit card and paint package – has arrived almost unannounced with all of these features and more. And in the process it leaps far ahead of every other Amiga art offering.

The OpalVision hardware comprises a 24-bit frame-buffer and display card with 1.5Mb of its own display RAM and the means to switch freely between Amiga and OpalVision graphics. It has a maximum resolution of 768x576 pixels in PAL and can animate in 24- and 15-bit low- and medium-resolution modes. (*Deluxe Paint IV*-style animation is promised for early next year with the bundled *OpalPaint 2* painting software.) See the panel at the bottom of Page 180 for more on OpalVision's hardware features.

The Amiga setup used to review the board and software is a 25MHz 3000 and, to be honest, even this is a little slow for some of the Artist Material effects, especially when used with the excellent Wacom Tablet (from £599, Computers Unlimited 081-200 8282), a pressure-sensitive input device that replaces the mouse and is nothing short of miraculous when used with paint programs. This is possibly the first Amiga package to fully support the Wacom and I hope it's the first of many.

If hardware specifications leave you cold, don't worry because the software side of things won't. *OpalPresents* is a good 24-bit 'slide-show' program with an easy-to-use interface and a good range of wipes. The utility *OpalHotkey* enables 24-bit images and Amiga standard graphics to work together. Full 24-bit images can be used as backgrounds and – with the use of priority stencils – as foreground images as well. But far more important than any of these extras is the paint

All manner of interesting 'art' effects can be managed, making it the ideal tool for artists seeking the feel of traditional media.





program included in the bundle, which goes by the name of *OpalPaint*.

OpalPaint is strikingly slick and professional for an Amiga program; a real pleasure to use from the moment you boot it. The interface is a clean, familiar layout across the bottom of the screen, reminiscent of NewTek's *DigiPaint*. Three horizontal bands of tools provide access to every function with left- or right-button mouse clicks, avoiding time-consuming menus. The layout is ergonomically designed – often-used tools are closest to the working area and less frequently used controls and toggles are furthest. The dangerous tools, Undo, Clear and Quit, are well away from other functions and situated behind the dialog and co-ords window.

On the first band a set of 20 paint pots provides colour and can be exchanged with 13 other sets in memory, or swapped with named palettes on disk, each with its own preview in the load requester. Any pot can be replaced with a named colour from a huge list that you can add to. Colour mixing is via the usual sliders – neatly arranged – or in the excellent mixing area. Just choosing a colour is an education in itself.

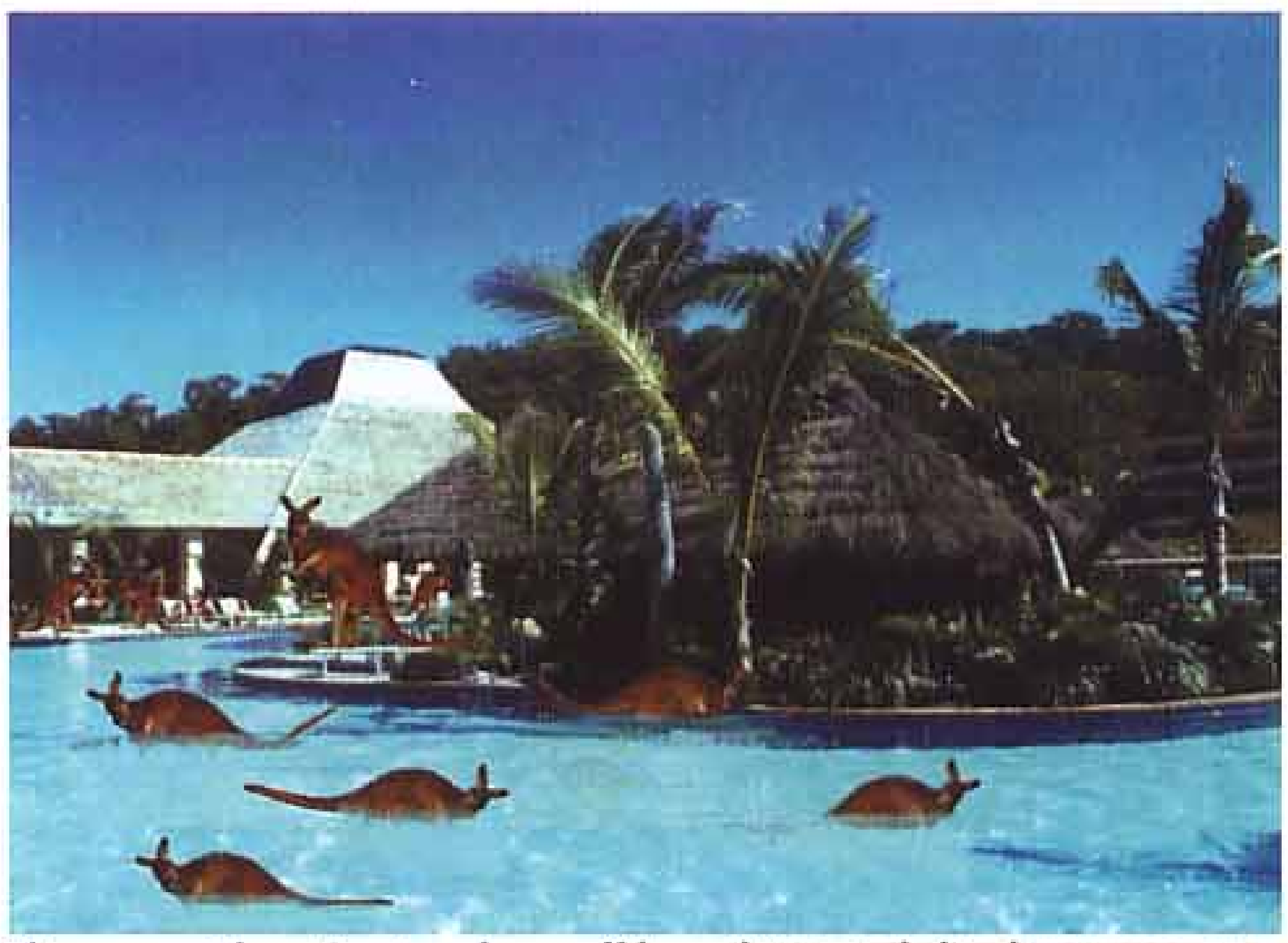
The band below the paint pots has the usual 'iconified' tools: line, polygon, fill, magnify, grid, text, custom-brush cutter, palette control and standard brushes, plus an innovation for the Amiga, though familiar to Macintosh *PhotoShop* users, the Magic Wand (which I'll describe later).

Drawings like this, while looking as though they could have been created freehand by a pencil-wielding sketch merchant, can be rendered with style in *OpalPaint*.





And guess where OpalVision comes from. Well it ain't Milton Keynes. Interestingly enough, Australia uses PAL rather than the American NTSC standard, which is good news for us and for opaline art packages.



This marsupial masterpiece shows off how objects, including kangaroos, can be pasted into a background without unsightly lines appearing – an effect possible with the package's anti-aliasing facility.



And here the Sydney University coxed four demonstrate that the Oxford/Cambridge bash is for wimps, all in glorious true colour.

In the third row is a series of named buttons for selecting filling operations, extras, drawing modes, three custom brushes that you might have cut, plus toggles for stencil, texture, anti-aliasing, transparency and an Alpha Channel – a means by which you can select an object from a picture without having to laboriously draw around it.

Almost all of the buttons and toggles – almost every tool in the menu bar in fact – will yield a further menu if double- or right-button clicked. Many of them use a standard file requester that gives 24-bit 'thumbnail' versions of pictures, brushes and palettes. Hopefully, more 24-bit developers will support this system, which is almost essential for graphic artists who tend to remember images far better than names. Some of the dialogs include a preview box to try out an effect – but not the Draw Modes. A great pity.

All of this just describes the nuts and bolts – the first layer of the program that every digital artist would expect. Behind these tools lies the real power. To understand the strength of *OpalPaint* it's useful to examine the structure of the program as explained by its programmers in the excellent manual.

Each time you make a mark on the screen, the program works its way down a hierarchy of 'operators' based on the parameters you have set up. This might be: which tool?, which nozzle?, texture?, stencil?, drawing mode?, global transparency? and, finally, draw pixel – in that order.

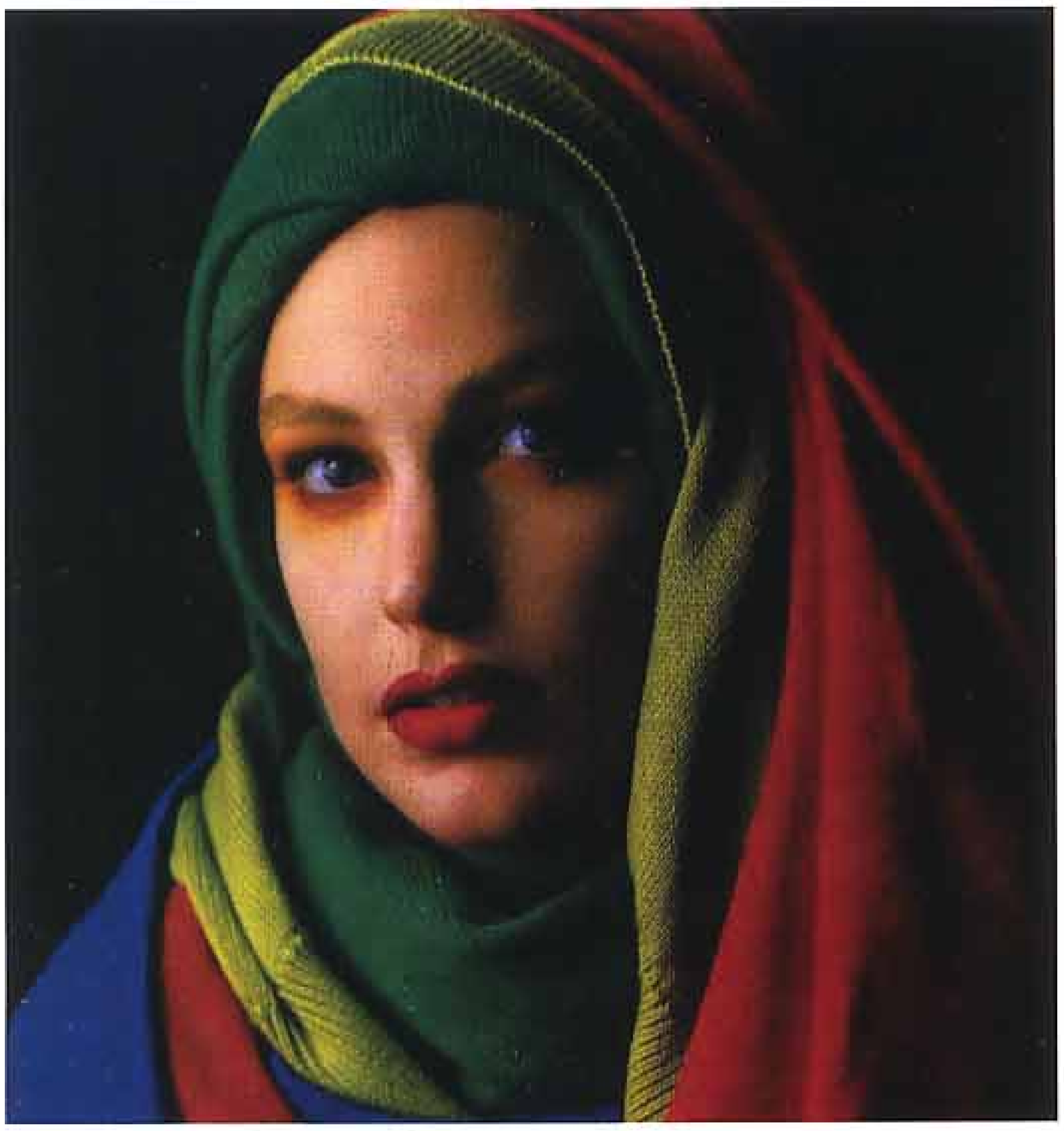
Some of these operators are obvious, but most need a little explanation. Surface texture, for example, is provided from two sources, 'brush' texture and 'paper' texture. Brush texture is a type of rub-through effect. Any custom brush can be tiled behind the current screen and when the Texture button is toggled on, every drawing tool reveals a part of this instead of painting with its own colour. Tools using transparency are especially effective with this, producing a mix of normal colour and texture. Paper texture is a more natural effect, similar to working with traditional materials on to an absorbent surface – coarse paper, canvas, hessian and the like. Used in conjunction with the Artists Materials – chalk, watercolour, pencil, texta, airbrush – the effect is remarkably realistic, especially with the Wacom pressure-sensitive tablet.

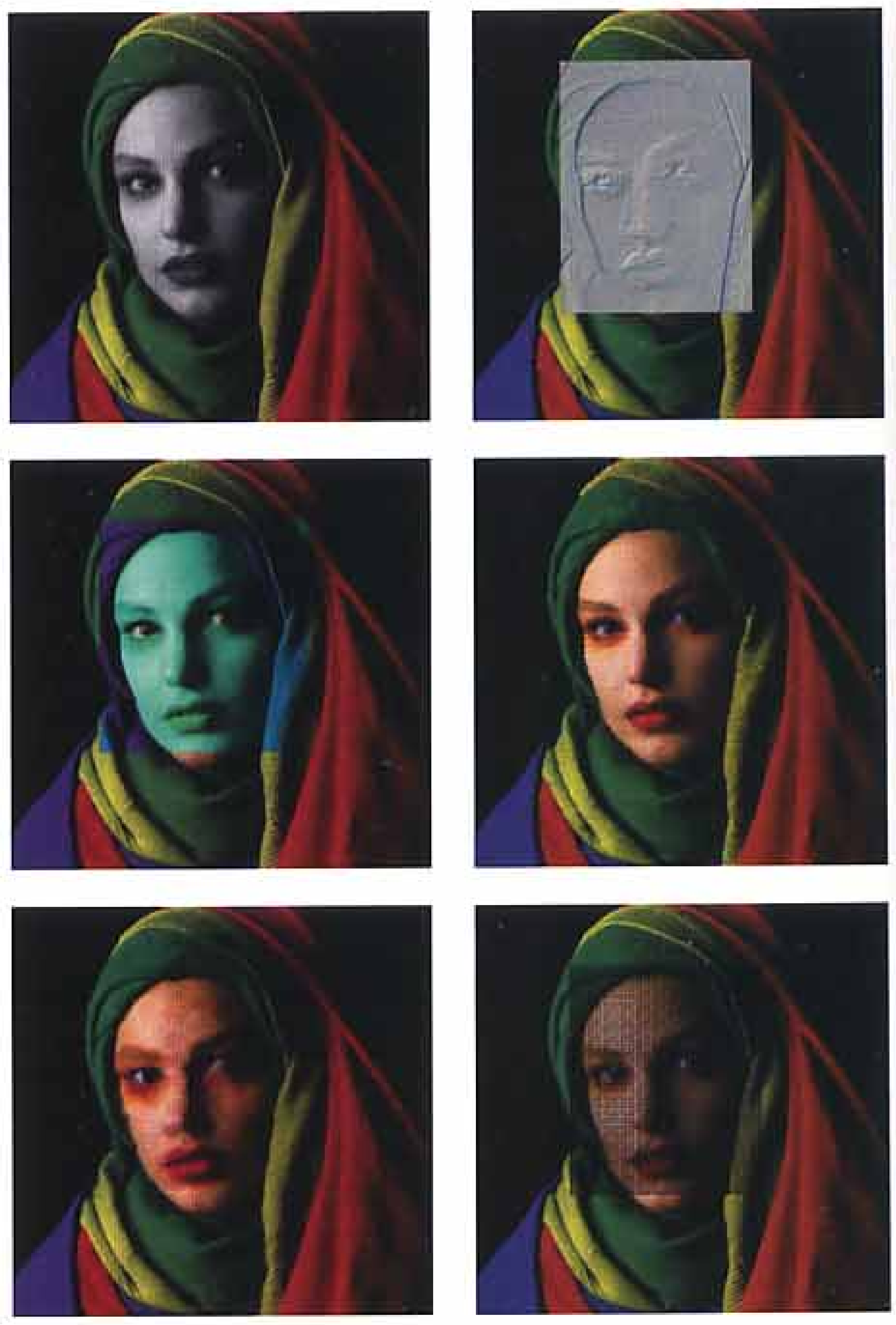
Two stencil methods are used: area and colour. Area stencils are set up by painting over the area to be stencilled using any of the painting tools. All painted areas are then excluded from painting by a 'mask'. The mask can have areas added or removed later so that traditional airbrush 'friskets' can be used.

Colour stencils are similar to those used in *Deluxe Paint* except for the way colours are specified. All areas of the particular colour are excluded from all paint operations while the Stencil toggle is selected. Colour selection is

Continued overleaf

Drawing Modes





A range of image-processing functions can be applied using any of the drawing tools. Many common processes are built in and controlled by a slider. Spare buttons enable 'plug-ins' to be added. Some of those provided are extremely useful, like 'smear-in' which is remarkably similar to smearing oil paint or pastels. Here are some effects (right) applied to an original picture (left). Going clockwise from the top left we have greyscale, emboss, oil, hessian texture, smear and change of hue.

very powerful and uses a 'tolerance' technique that is also used for fill, Magic Wand, and brush 'pickup'.

Tolerance Ranges are set up for all of these tools with a set of hue, saturation, and value sliders. These are set to percentage values of tolerance on either side of the colour of a selected pixel. Clicking the Flood Fill tool in an area of colour will then fill not just the exact colour but all those within the range. Painting a texture into a scanned blue sky (with a transition of blues from top to bottom, for example) will change all shades of blue, but not the white clouds if the colour stencil values are correct.

The drawing modes are a range of image-processing functions that can be applied using the drawing tools. Many of the common processes – add, subtract, negative, shade, posterise, gamma, sharpen, smooth, smear, tint, colourise and so forth – are available built-in and most are controlled by a percentage slider. Four spare buttons enable third-party 'plug-ins', or loadable modes, to be selected from disk.

OPALVISION is Available from Calculus 0543 251275

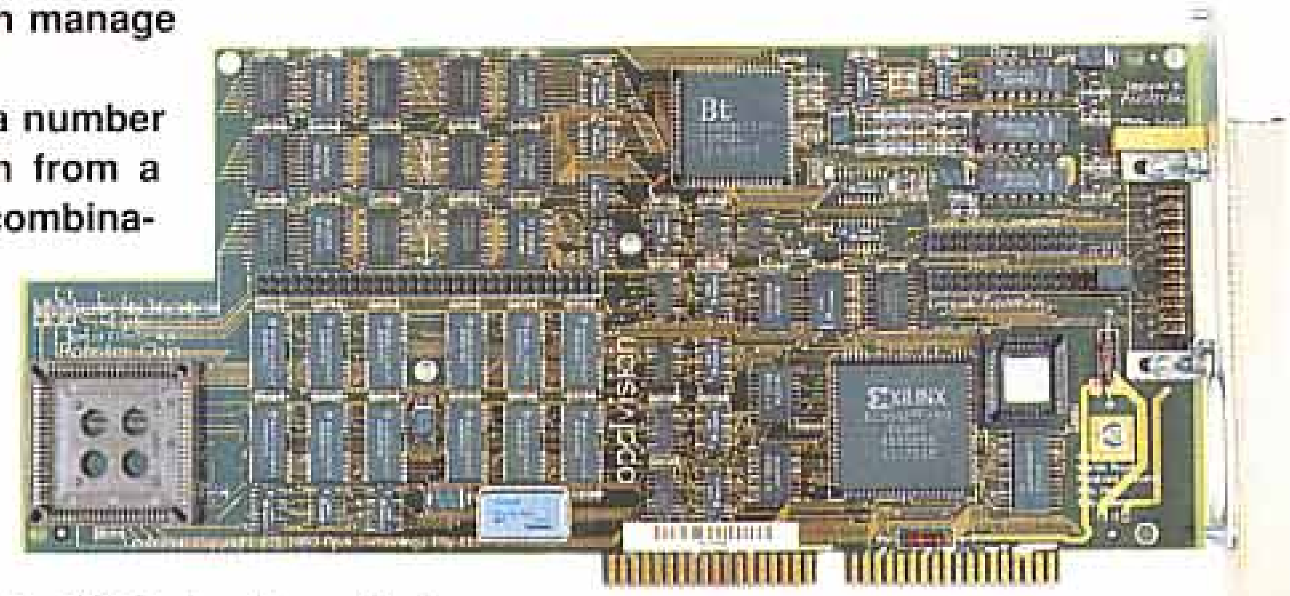
There are many more tools and effects in *OpalPaint* than can be described in this review, but the real beauty of the software is that it is so intuitive to use. It's almost perfectly tuned to the needs of an artist, illustrator or designer, unlike most Mac, or indeed most Amiga graphics and paint software. A number of other developers are beginning to support the Opal board. *Aladdin* (formerly *Draw 4DPro*), *Caligari*, *PlayMation* and *Real 3D* can all use it, and *ADPro* will soon have a compatible saver module. At present a few features are not quite finished – Alpha Channel, Magic Wand, ARexx and virtual memory, for example – but should be around by the time you read this.

Without the extra modules, what makes the OpalVision package special is *OpalPaint*. It is undoubtedly the finest, most professional paint program to arrive for the Amiga and has at one bound caught up with the very best software the Macintosh has to offer and set a new, much higher standard that other Amiga packages would do well to emulate. This could be the start of something big.

OPALVISION – A BUFFER THAT'S NO DUFFER

The OpalVision hardware in its current version comes on a standard-sized card which plugs into the video slot of an A3000 or similar. The good news for anyone who thinks 'Well, that's me out of it, then' is that this amazing piece of kit is to be developed as a stand-alone, plug-in gadget to hang off the outside of an A500 in the fashion of the 'pseudo true-colour' boxes HAM-E and DCTV. The hardware itself is essentially a true-colour 24-bit framebuffer, so you might think it's just the excellent software – oh, and the comparatively low price – that makes this set-up stand out from the crowd of 24-bit framebuffers we've seen appear over the last year or two. But there is a lot more on the way, if OpalTech manage to achieve their plans.

As it stands, the hardware allows for a number of plug-in extras that turn the OpalVision from a simple framebuffer-plus-paint package combination, into a full-blown digital effects and editing suite for video. A genlock and frame-grabber, a production switcher (to control a number of video ins and outs), a 'roaster' chip (for real-time effects) and a scan rate convertor are all promised. Which basically means NewTek may as well not bother with a PAL version of their famous Video Toaster...



OpalVision hardware just slips into an Amiga 3000 video slot.

OpalVision

SPEED ●●●
The more acceleration that you have the better because it's slow even on a 3000.

DOCUMENTATION ●●●●
Very good. Lots of illustrations and headings. Separate reference and tutorial manuals.

ACCESSIBILITY ●●●●●
Brilliant, intuitive interface. Complex functions take some practice.

FEATURES ●●●●●
By far the best featured paint system that is available on the Amiga.

VALUE ●●●●
Very good value for what is such an ambitious graphics package.

AMIGA FORMAT GOLD **96%**

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Upgrades to programs don't usually produce a great deal of excitement, so just what is so special about this new version that **Tim Smith** has to spend two pages examining it. Find out…

Wordworth 2

Document Processor ■ £129.99 ■ Digita

WITHOUT SOUNDING DELIBERATELY jingoistic about this, it is good to see a product of the obvious calibre of *Wordworth* coming out of the United Kingdom. This aside, it is time for a dispassionate look at what is essentially merely an upgrade to an existing word processing (or document processing, or word publishing) tool for the Amiga.

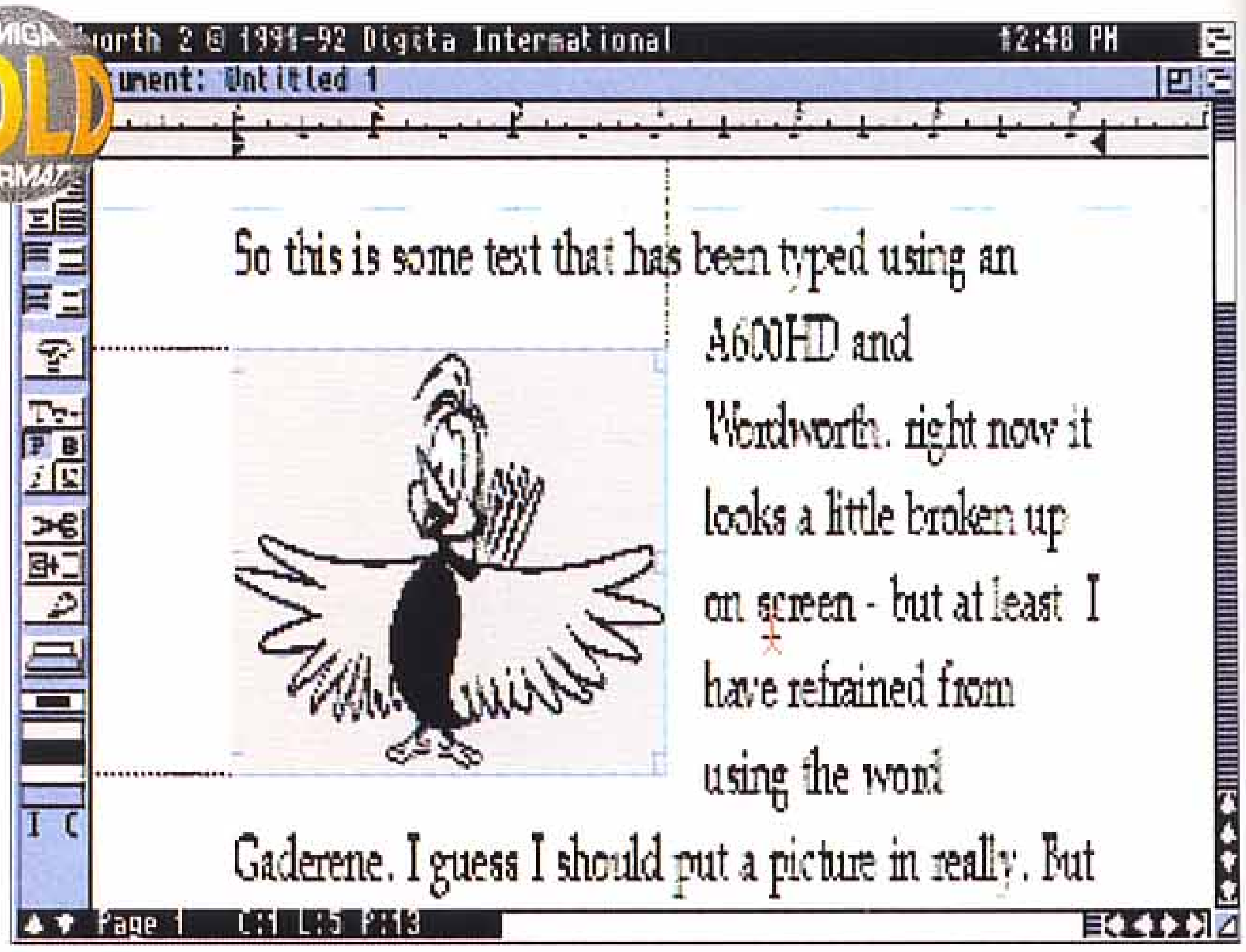
Back in 1991 (Issue 24 to be exact) when Pat reviewed the original *Wordworth*, he was impressed – he gave it 82 per cent – but he did have a few qualms. First off, he mentioned that *Wordworth* was slow, that it could not make use of PostScript printers, and that it was limited in its choice of fonts. So we'll be looking to see if these have been improved upon.

However, Pat also pointed out that Digita's Human Interface Protocol (HIP) software interface was extremely easy both to learn and to use. So we'll be looking to see whether or not this simplicity has suffered at the expense of the new additions.

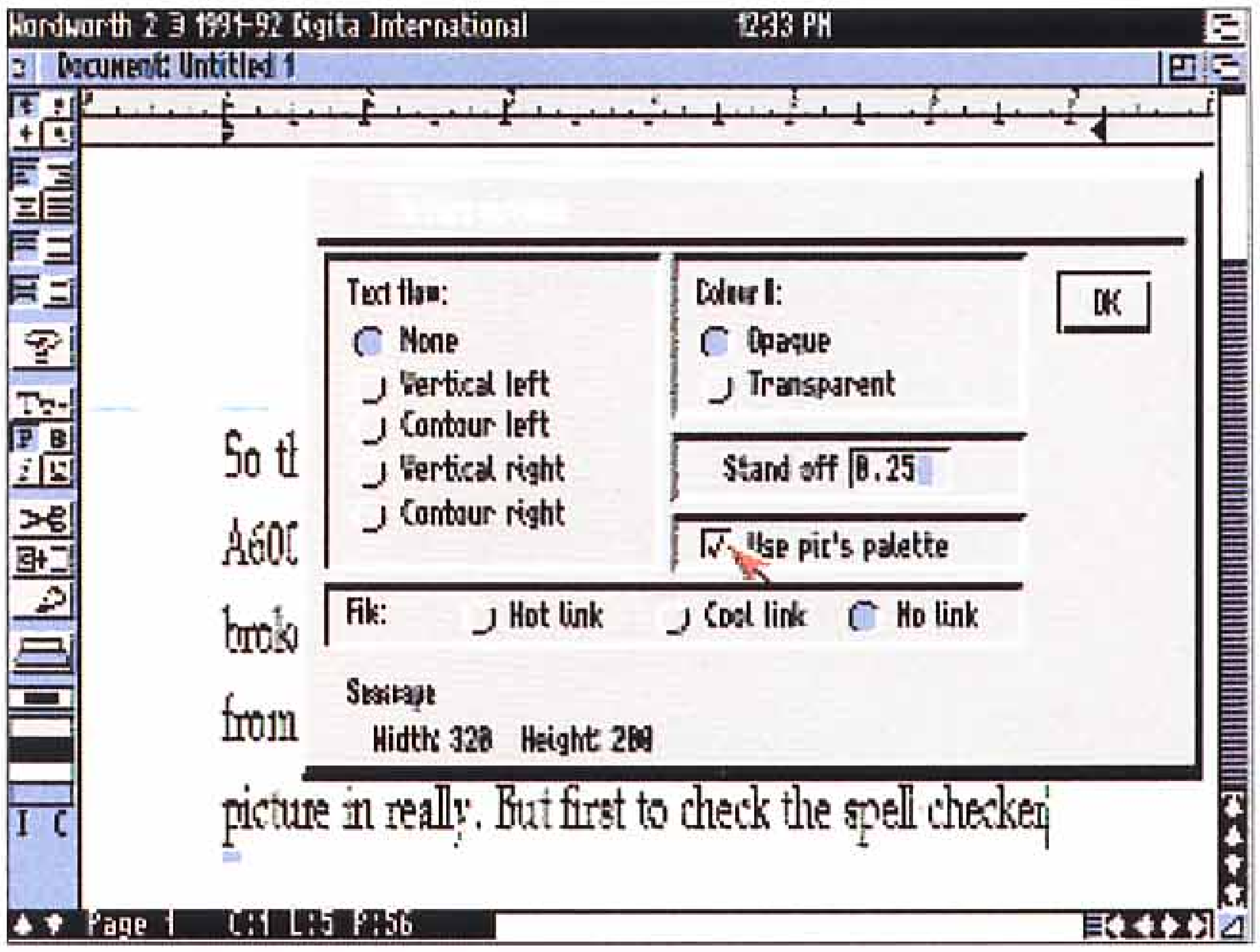
First of all, Digita have already stated that *Wordworth* 2 is compatible with the new Amiga 1200 and 4000 machines, as well as the standard 600. Having tested it on the 4000 and the 600 (as well as an A500 and a Plus), it does look as if the program will give the vast majority of Amiga users no trouble at all.

Running the software on a hard-diskless A600 proves to be pointless. Mainly because there is such a lot going on beneath the surface of the reconstructed *Wordworth*, any machine without a hard disk is going to have problems. Everything from access to the thesaurus and dictionary to graphics manipulation (the limited amount there is of this, but *Wordworth* never set itself up to be a desktop publisher) is a big draw on the machine's capabilities. If, however, you are prepared to use *Wordworth* as a straight word processor, without too much bother about the graphics until you are able to upgrade, then the software clips along just about acceptably.

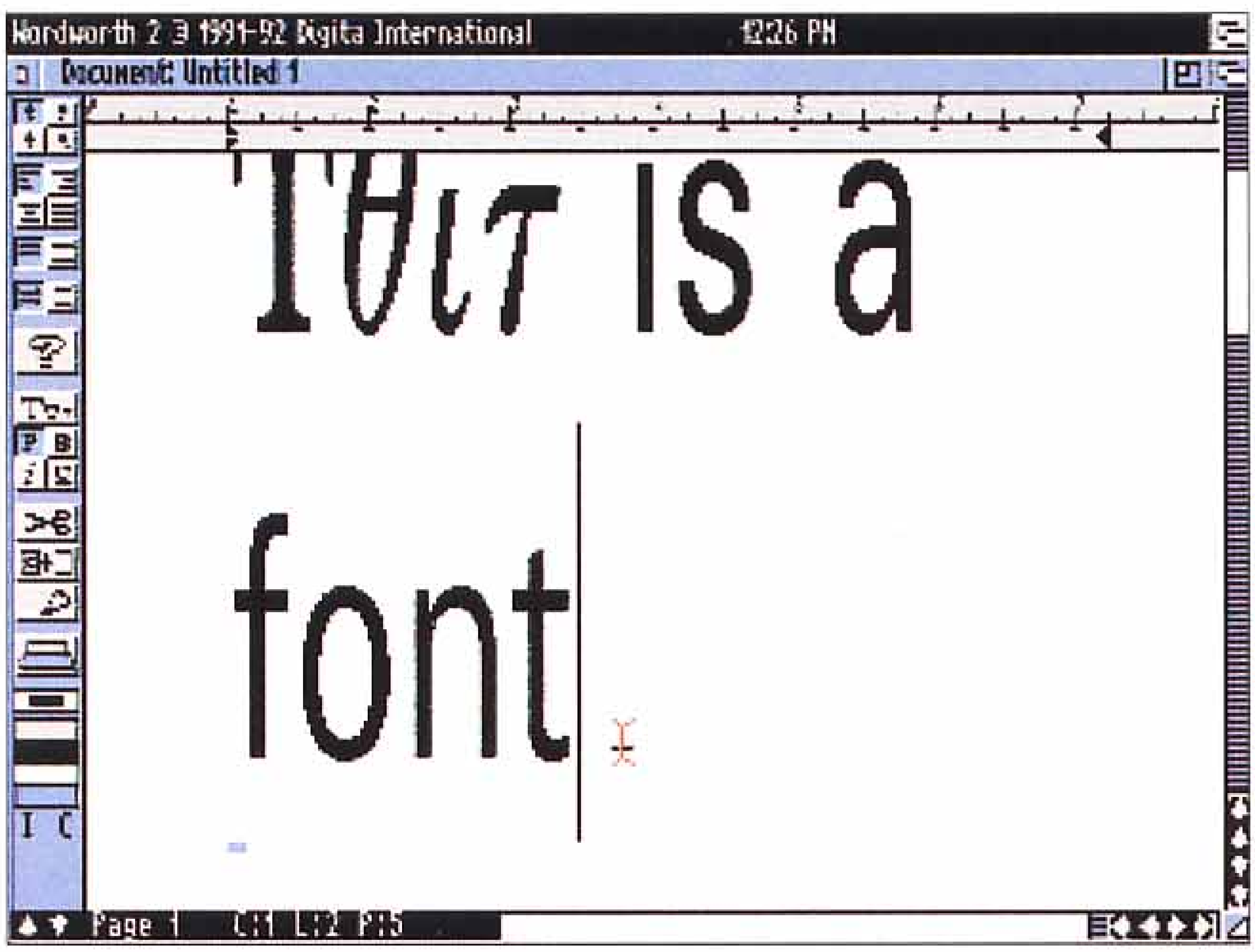
Moving on to the A600HD, and things begin to look up some. Using the software on a 4000 or 3000 is no problem at all. For a start, the hard disk installation process is a piece of cake. It is simply a case of having to swap disks for about 10 minutes: once you get this bit of tedium over and done with then – bingo! – you have a brand new drawer that's packed with fonts, program and even a document drawer. The only problem with this in the review copy is that the sample docu-



Owners of early *Wordworth* versions will notice that the sidebar has changed to include more operations. Happily this has been achieved without too much clutter.

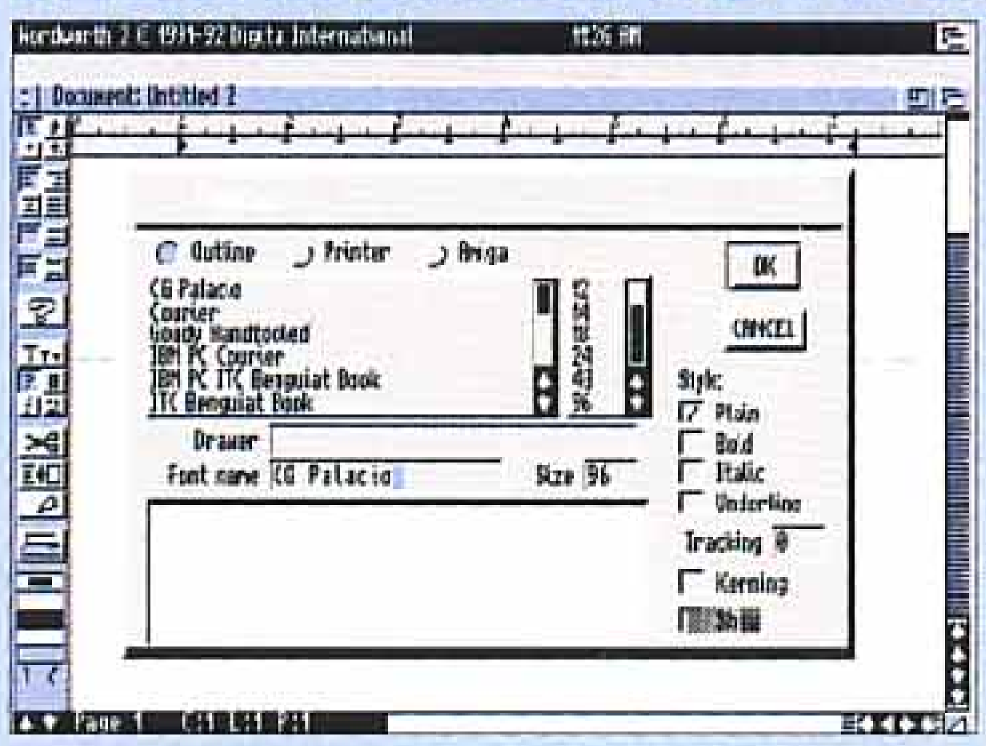


Importing graphics is a simple, painless process as is resizing and deleting them. Also the number of different file formats that you can use has been increased by three.



Another major feature is the inclusion of the Agfa Intellifont system of outline typefaces. The ones you see here are displayed at 96 point. They can also appear in 8 point and sizes inbetween.

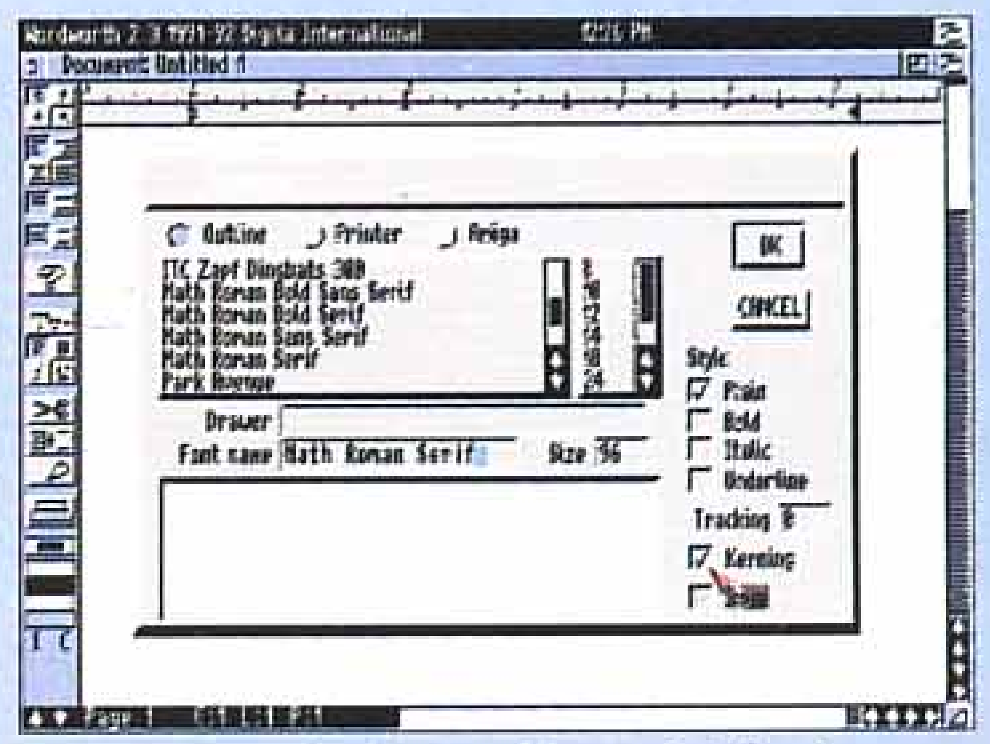
SHOWING A BRAVE TYPEFACE TO THE WORLD



This cleanly laid-out dialogue presents you with all the choices you need to make the best use of your fonts.



From the main working screen, all you have to do is pull-down the menu or click on the line of TTTs on the left bar.



There are several outline typefaces included with *Wordworth*. All can be used in different weights.

When the chaps from Digita first started telling us about their new little baby, they were particularly keen to point out that they have been able to tie-up with photo/computer giants, Agfa, on their Intellifont outline font technology. To the majority of users out there, this will mean next to nothing: until, that is, you find out that using this (and the supplied fonts) opens up entire new areas of typography to you.

The Intellifont system basically means that you can use fonts from a tiny four points to a massive 800 points (that's nearly 11 usable inches of 'GOTCHA!' – consider that even the most OTT of tabloid headlines normally comes in at under 150 points and you'll get the idea). Of course you would need a large amount of free memory to get the maximum size of typeface, you'll need even more if you want to manipulate the text once it's on the page. To give you some idea, I have used an A600HD with a standard 1Mb of RAM and I have been able to use up to 96 point text, albeit at a snail's pace. Switching to the A4000 changes the state of play as you would expect, and the whole process becomes far more reasonable.

The entire point to the Agfa Intellifont system is that you can play around with various typefaces to your heart's content and with no discernable loss of quality on screen.

With Agfa's undoubted good reputation and track record backing up this you can expect more fonts to emerge over the next few months. A good idea, and a good application of a good idea all round.

ments have not been installed on to the hard drive. The people at Digita, however, assure us that this is being addressed.

Once installed on the hard disk it is ready for the off. Booting into the main screen, there are a couple of changes to the appearance (you will see most of these from the pictures but they do deserve a small mention).

The top menu bar remains the same; it's only when you look at the tool bar down the side that you realise that for at least once, life can be easier. Where the older version of *Wordworth* gave you tab controls, line spacing, Help, Undo, Again, font usage, column usage, insert and overwrite, the new system includes all of these but adds button controls for cutting and pasting, buttons for bolding, italicising, underlining and plaining text, and a printer control button.

All of the control buttons are decently spaced from each other and are easy to get at. Basically this means if you wanted to bash out some words, do a little cutting, a little pasting, alter a font here and there before printing the damned thing, you would never have to go near the menus (why they didn't add a Save icon on the Tool bar is a question to ponder).

Happily, Digita have not gone for the glamour angle by concentrating on the graphics side of *Wordworth*. Sure you can place pictures, create text flows, resize the images, and you can do all this with the greatest of ease, but that really is all.

No, what the company has gone for instead are improved word processing utilities. For example the mailmerge option has been thought through and has been improved to include various new commands which make the normally tedious process of mail merging that little bit less painful.

Also added to the system (and about time too, yells anyone who has even contemplated writing a reference work, a thesis or even a good cookbook for home use) is an indexing utility. This also includes the ability to produce a table of contents. Believe me, this is incredibly useful.

These are all true word processing improvements, not frills or rip-off excuses to wring a little more money out of the market. Equally when you see that the dictionary has been upped from a meagre 144,000 words to a beefy 827,000 words, that you can now import PCX, EPS, and BMP graphic file formats, and that you can print in up to 32 columns, the once interesting *Wordworth* becomes the now significantly more powerful *Wordworth*.

Running this program on an A4000, in high resolution, with 2Mb of RAM, importing graphics and scaling and rescaling fonts is really a painless experience (as you would expect). The ease of use that has been built into the system (and is reflected by the fact that deleting a graphic element is simply a case of double-clicking on it and then clicking the Delete button) makes an already good program pick up a few gears to become an excellent program.

If Digita could produce a cut-down version for the A600 (keep the intellifont system, lose the mailmerge) or do as Microsoft do and give you the choice of what elements you want to install, then we could have a brilliant all-Amiga product. As it is you need 1.5Mb and a hard disk to get the most out of this system. Happily you can have nearly any printer you like from a Star dot-matrix through to an Apple LaserWriter.

I wouldn't suggest that anyone without a hard disk would get the most out of *Wordworth* (have you tried using an 827,000-word thesaurus from floppy disk – *wooow* it's *slow*), you should stick with something like *Protext* and forget the graphics. The question of the 1.5Mb recommended memory limit does more than suggest that Digita are not aiming this high-class piece of software at A500/Plus/600 users anyway. However, it would be a shame to distance the less-than-power-user from a program of this quality. So, if you have dual floppies or an HD machine, you will be on a winner with *Wordworth*, and a RAM upgrade is good idea anyway.

WORDWORTH
£129.99 from Digita International
0395 270273

Upgrade for *Wordworth* users
£49.99

Word processor exchange deal
£59.99

1.5Mb required
Hard disk installable

A MEG OR NOT A MEG

Digita recommend that you have a minimum of 1.5Mb to run *Wordworth*, and I can certainly see why. The price of £129 also points in the direction of A1200 and upwards users. However, I was using the program on an A600HD with 1Mb on-board. Although the speed left something to be desired, and the screen updates on re-scaled outline fonts were a pain, the software was still useable. Digita's recommendation should be taken seriously if you are looking for speed of use. But there is no reason why an A600 user who is looking to upgrade RAM in the near future should not be happy using the program in the interim.

Wordworth 2

SPEED ●●●●
An improvement on the earlier version, font and picture updating are slow on floppy systems.

DOCUMENTATION ●●●●●
We haven't seen the new manual yet, but the last one was excellent.

ACCESSIBILITY ●●●●●
Couldn't be easier. Everything from installation to picture manipulation is simple.

FEATURES ●●●●●
With the new Intellifont system combined with improved dictionary and thesaurus it's grand.

VALUE ●●●●
Digita have addressed the problems, from printing to speed, which were levelled at *Wordworth*.

AMIGA FORMAT GOLD

91%

COMPUTAWORLD



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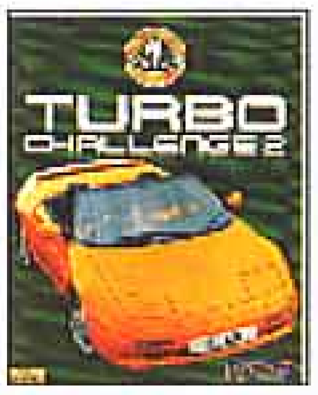
The NEW Commodore Amiga 1500 Pack features a 7.14MHz 68000 processor with 1Mb RAM as standard (expandable to 41Mb via expansion cards). It includes two 880K 3.5" floppy disk drives and can support PC emulation by an XT/AT bridgeboard or ATonce Plus. The Amiga 1500 contains 3 co-processors (Denise, Agnus, Paula) to enhance sound, graphics and animation. It also includes 9 internal expansion slots. Interfaces include: Parallel - Centronics, Serial - RS232, Video - RGB Analogue, RGB Digital and mono Composite, Right and Left Audio, 2 x Mouse/Joystick controller ports and an external drive port. It also includes a multi-tasking WIMP operating system, a colour palette of 4096 colours, high quality stereo sound with 4 channels and 9 octaves and text to voice synthesis. This package does not include a hard drive and is available with or without a monitor.



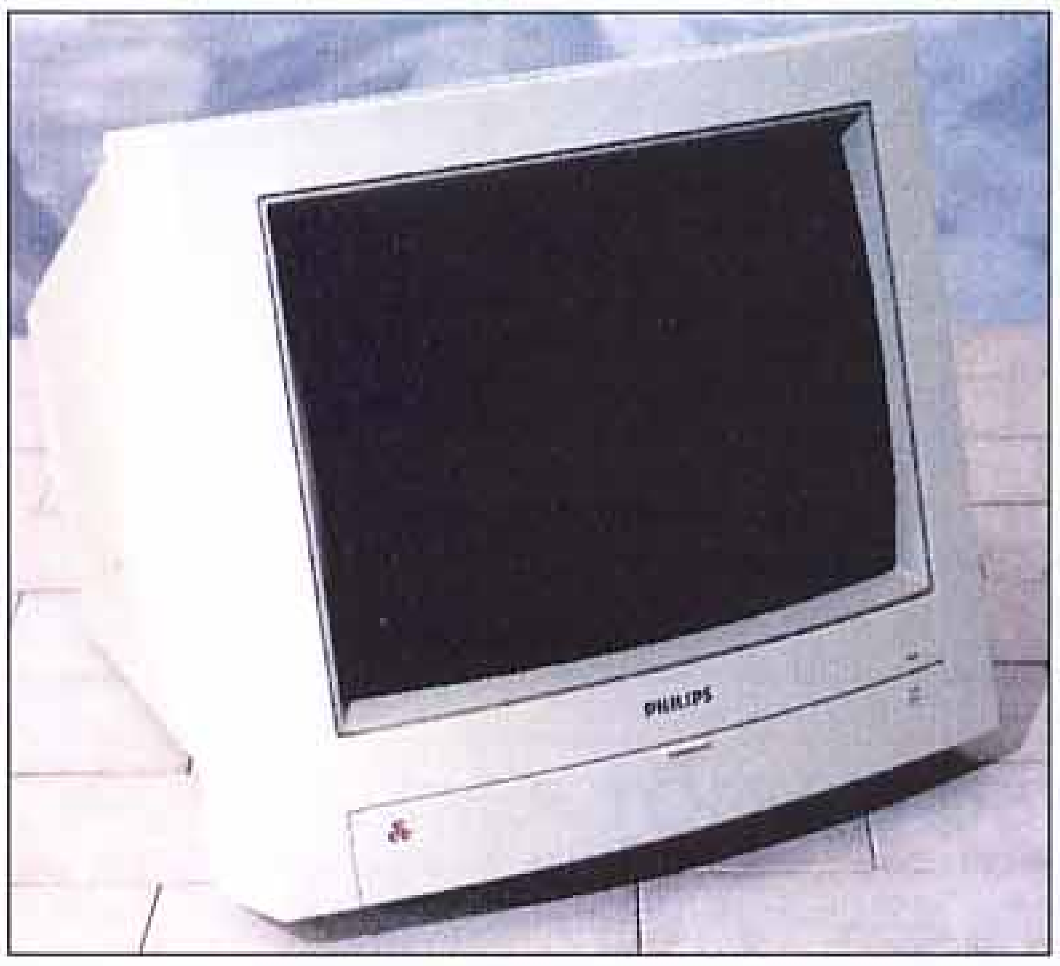
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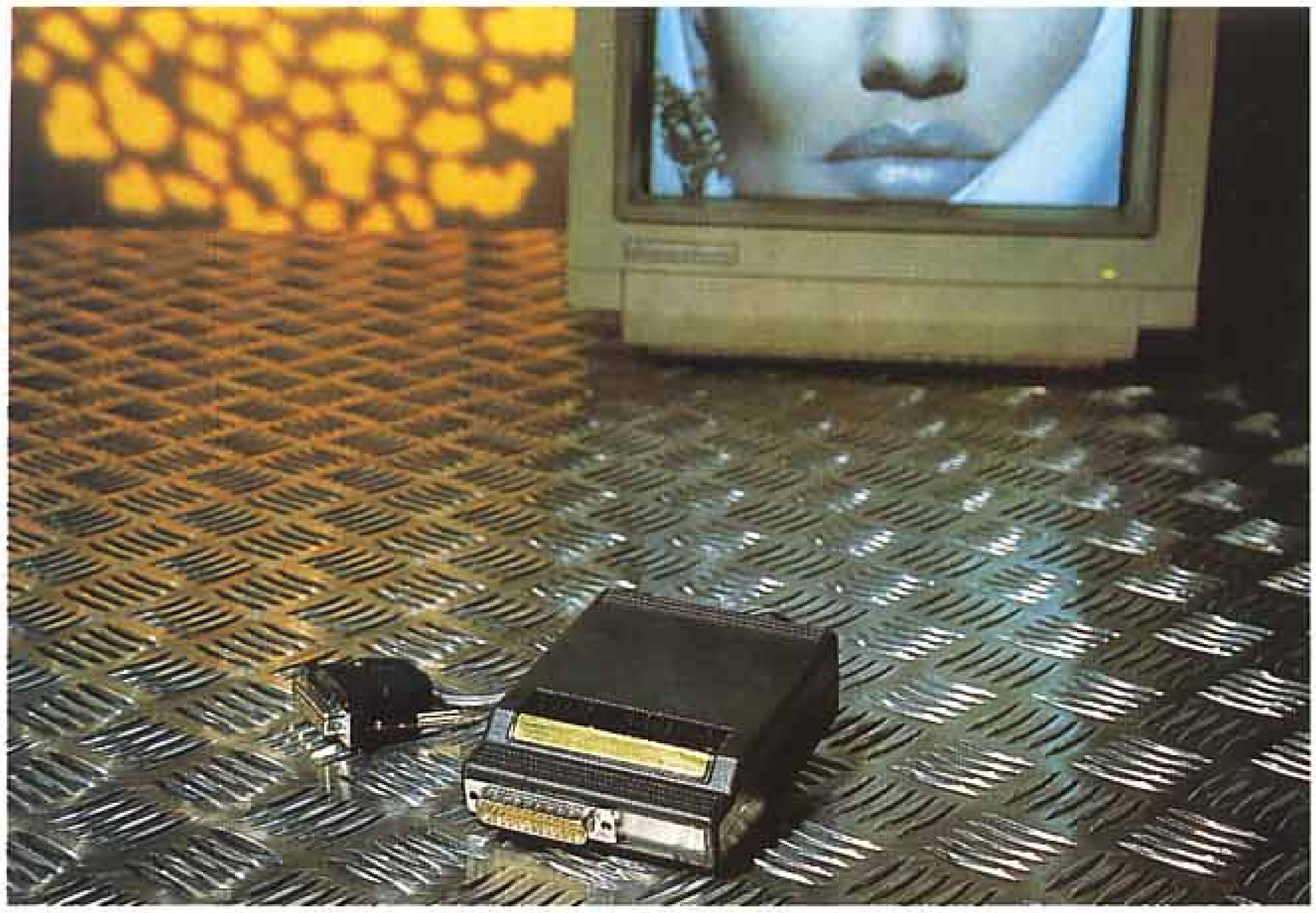
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Rombo add to their Vidi range with everything you need to grab, edit and animate video images in one tidy package. With extracts from his video collection here's **Jason Holborn...**

Vidi-12 includes everything you need to grab, edit and even animate digitised frames in one tidy box.

Vidi-Amiga-12

Colour video digitiser ■ £99 ■ Rombo Productions

THERE'S NO SHORTAGE of digitisers available for the Amiga, ranging from basic units such as Datel's Video Digitiser 2, to 24-bit grabbers such as V-Lab. Getting a decent digitiser that can grab full-colour images from standard video tape is a little trickier, though, simply because of the complexities involved in decoding a colour composite signal. The units that are available to the average user either require the use of red, green and blue coloured filters (and a mono video camera) or a separate RGB splitter and a high-quality video source.

Rombo certainly upset the digitising apple cart when they released their original Vidi-Amiga video digitiser. For little more than £100, high-quality real-time video digitising was within the reach of the average user. Now, three years on from the release of the original Vidi, Rombo have done it again with the release of Vidi-12, a full-colour video digitiser that can capture colour images from just about any video source without the need for a separate RGB splitter.

There's very little difference between Vidi-12 and Rombo's existing Vidi/Vidi-RGB combination (until now sold as the Complete Colour Solution bundle comprising the Vidi-Amiga digitiser and a separate RGB splitter). Unlike that spaghetti-infested system, though, Vidi-12 includes everything you need to grab, edit and even animate digitised frames in one tidy box. The digitiser unit connects to the Amiga via the parallel port. Trailing out of the casing is an extra lead that must be connected to the disk drive port to enable the Vidi software to control the operations of the digitiser unit.

Most of the image controls that were built into the original Vidi hardware have now been removed in favour of a completely software-based system. Surprisingly, though, there's still a very small potentiometer (or as the pros would say, a 'pot') built into the side of the Vidi hardware which enables you to control the brightness of the incoming signal. Digitising from both a colour video camera and a Panasonic video recorder, I've found that the default brightness setting is far too low – the first thing you'll probably want to do is to turn this right up as far as it will go.

One very nice addition to Vidi-12 is the ability to feed not only a standard composite signal to the digitiser, but (for those of you who are lucky enough to own such a thing) a full colour Super VHS (S-VHS) signal. Although S-VHS is still bit of a stranger to most of us, it's becoming increasingly popular simply because of its higher resolution. Although 99% of Amiga users probably won't be able to use this facility, I'm sure digitising experts will be pleased to see it's there.

Another major advantage of Vidi-12 is the quality of its control software which is definitely a vast improvement over the original's rather unfriendly (and rather drab) front end.



The Vidi-12 software uses the now standard look and feel of Workbench 2.04.

VIDI-AMIGA 12 is available from Rombo Productions 0506 414631



Even grabbing from pre-recorded video tape produces some pretty impressive images.

Based on the look and feel of Workbench 2, Vidi comes complete with two versions – one for 1.3 users and another, altogether tidier version, for 2-based Amigas. You're presented with a tidy window containing all the digitising options. The main three, though, are 'Grab' (for grabbing frames), 'Edit' (for tidying up those grabbed frames) and 'Carousel' (a sort of mini animation sequencer).

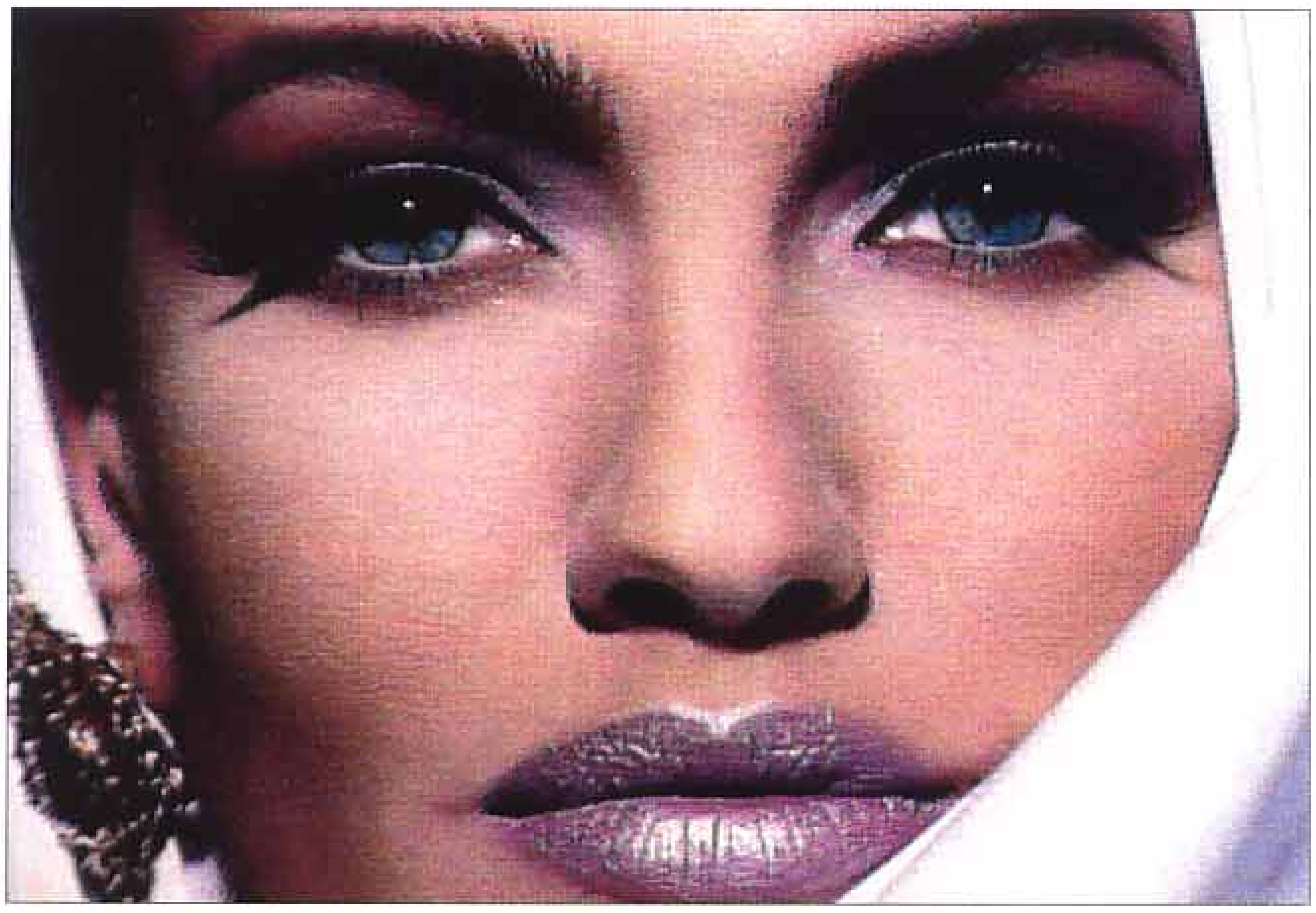
The number of digitising options is impressive. Vidi can grab full-colour images in a variety of formats including the usual low and high res modes with a variety of different colour combinations, including HAM and Extra HalfBrite. Owners of Black Belt's HAM-E will be pleased to learn Vidi-12 also provides direct support for its 256 and 262,000 colour modes. HAM-E support may seem puzzling considering that Black Belt have now stopped producing HAM-E, but rumour has it that much of Black Belt's technology made its way across into Commodore's new 'AGA' chip set. If this is true, Vidi-12 is truly a digitiser equipped with the future in mind.

Grabbing mono images is completed in a single video frame (1/50th of a second), so you

FIVE TOP TIPS TO BETT

1 If you're grabbing images from a pre-recorded video tape, then try to freeze the tape when the subject is not moving. If you attempt to freeze a fast-moving sequence from a feature film, the video may have trouble producing a stable image. Static frames also produce images with far greater detail.

2 Although colour video cameras are much easier to work with, mono video cameras generally provide a far higher resolution and greater contrast. If image quality is paramount to you, then you may well want to resort to coloured filters. Although Vidi-12 does come with a built-in RGB splitter, it can also be used in conjunction with a mono video camera and coloured filters.



With a decent video camera and the right lighting, the quality of grabbed images is very high indeed.

can grab frames from a moving video source. Colour grabbing requires a stable, paused image because three video fields must be grabbed – one red, one green and one blue. These separations combine to produce a full-colour image using the 'Mix' option. The quality of grabbed images is good, especially when a 'live' video source is taken from video camera, but you do need a high-quality video recorder to grab decent colour frames from video tape. Even with a decent VCR, though, HAM pictures suffer from 'HAM fringeing'.

If your digitised images don't come up to scratch, then you can perform various image-manipulation functions with Vidi-12's built-in image-processing tools. While these won't replace a dedicated image-processing program such as ASDG's *Art Department Pro*, they provide a quick and simple method of carrying out some of the more common operations such as edge detection, blurring and solarisation. It would have been nice to be able to remove the awful HAM fringing, but there you go.

Like the original Vidi, it is also capable of animating a series of grabbed frames. From the digitising screen select 'Grab continuous' and the frames are streamed into Vidi's frame-store ready to be animated. Frames are set into motion by selecting 'Carousel' from the main menu. This brings up a window containing a horizontal strip of miniaturised representations of the frames held in memory. Animation is controlled using a set of VCR-like controls at the bottom of the Carousel window – you can fast forward and rewind through your frames and then play them forwards and backwards. If you like the animation, you can even save it out in standard IFF ANIM format for further editing in a dedicated animation program.

Considering its price, Vidi-12 is the best value full-colour video digitiser on the market. Although the quality of colour digitised images could be better, they're far from awful. Rombo should do something to prevent the HAM fringing effect many digitised frames suffer from. If this could be achieved, then image quality would be improved and Vidi-12 would not only be the best budget digitiser, but it could even give expensive digitisers like JCL's ColourPic something to worry about.

IGITISING

3 Always use a decent cable to connect your video digitiser to your camera or VCR. If you use sub-standard leads, 'line noise' can be introduced.

4 If you're digitising a 'live' subject using a video camera, it needs to be well lit. Don't use standard bulbs though – these can cause a 'redding' effect. Take a trip down to your local art supplies shop and treat yourself to a set of 'daylight bulbs'. These blue-coloured bulbs produce a more natural light.

5 Don't turn the colour saturation up too high. Although the image may actually look great on your camera, it will come out rather blurred and washed out once digitised.

Vidi-Amiga 12

SPEED ●●●●
Although Vidi-12 cannot grab colour frames in real time, it still runs rings around Digi-View.

DOCUMENTATION ●●
Absolutely lousy! Some of the Vidi-12 functions aren't even documented! But...

ACCESSIBILITY ●●●●●
...Vidi-12 is so easy to use that you don't even need the manual to get started.

FEATURES ●●●●
Vidi-12 is absolutely packed to the gunnels with useful functions.

VALUE ●●●●●
£99 for a full-colour digitiser is phenomenally good value for money.

Verdict **88%**

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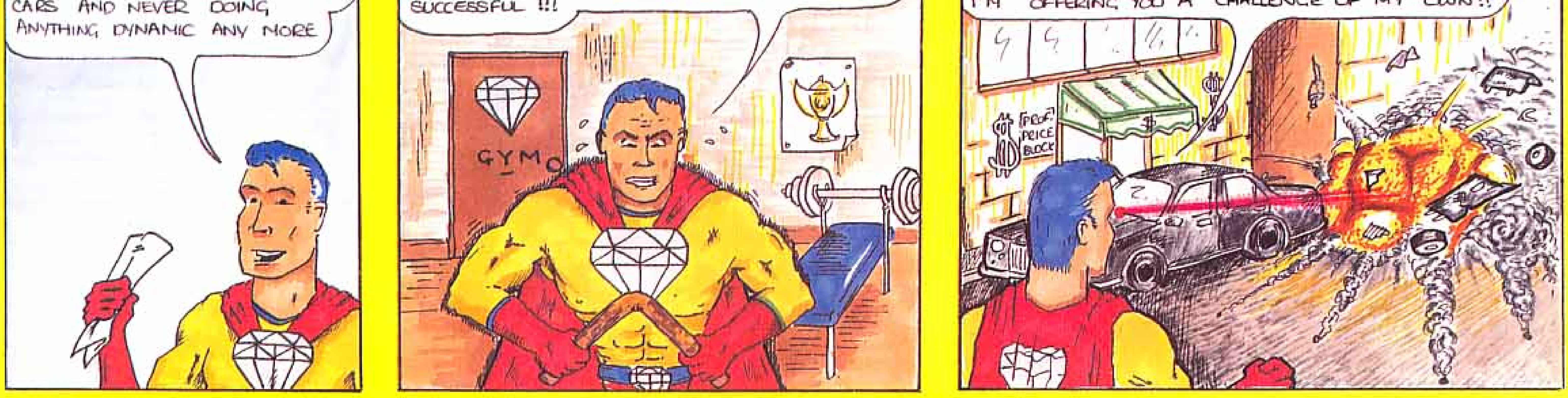
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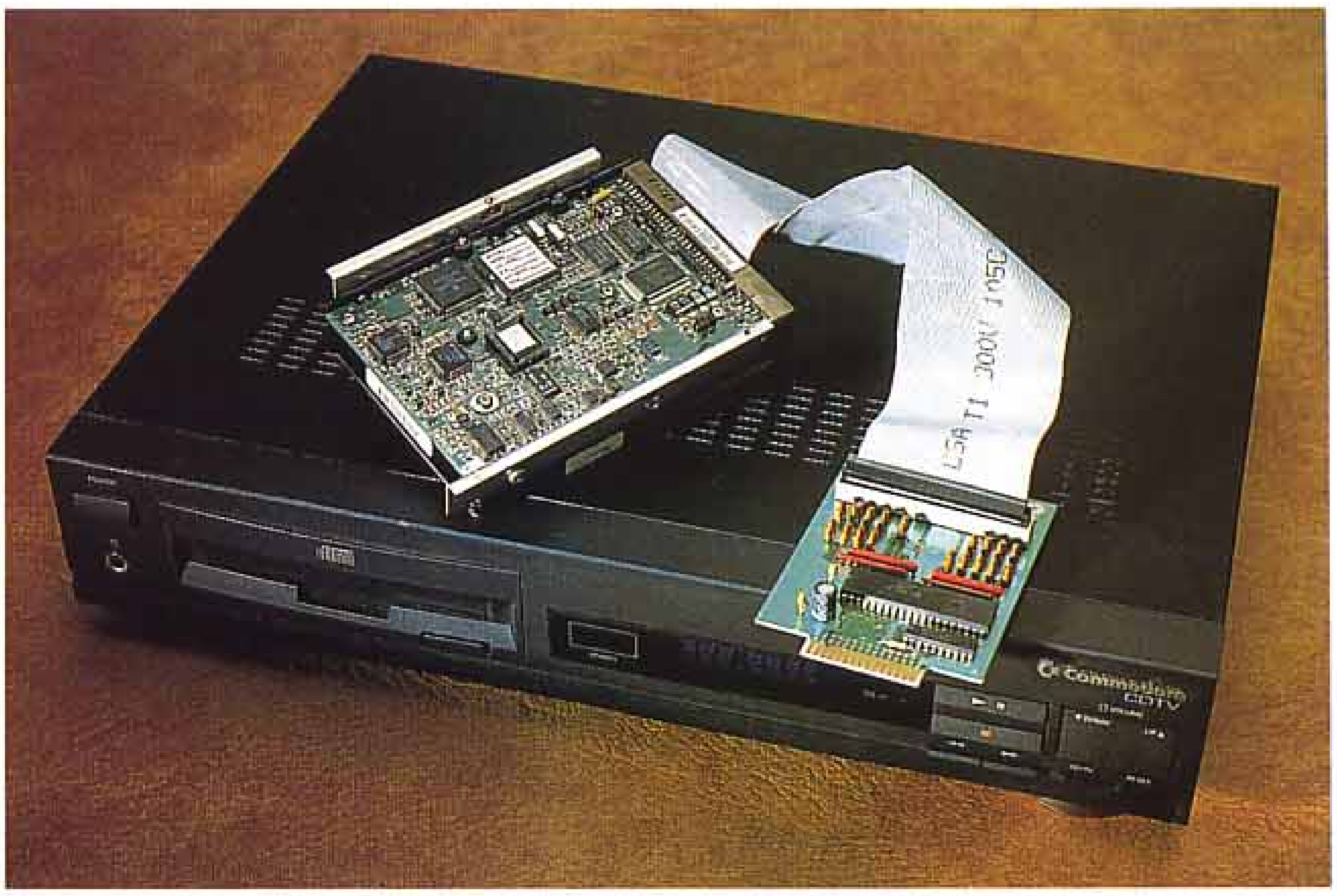
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Not content with selling a 2Mb CDTV, ZCL have released a black box with an internal hard drive. **Pat McDonald** checks out the latest in warehouse-clearance tactics.



Stripped from the guts of its parent machine, the hard drive and SCSI interface are really not impressive when seen in isolation from the main unit.

HD CDTV

CDTV hard drive ■ £699 ■ ZCL

I REMEMBER THE days when CDTV was not 'officially' classed as an Amiga. You couldn't expand it, there wasn't a keyboard for it, and it was billed as 'the black magic box'. What has changed is the fact that CDTV owners want to be able to use floppy-based Amiga programs and games, as well as CD titles.

With the CDTV Multimedia pack, those days are gone. CDTV owners want Amiga software to work more than they want CD. They still want the option of those snazzy, shiny disks, but at £50 a throw they are usually much too expensive for what they deliver.

Enter ZCL's HD CDTV. As well as a floppy disk drive and keyboard, you get 2Mb of chip RAM as standard, a mouse that plugs into the back (much more responsive than an infra-red controller) plus a hard disk.

When you turn the unit on, and a CD is available, it will run the CD. If there isn't a CD in the drive but there is a floppy available, it runs the floppy. If neither disks are available, rather than coming up with the standard CDTV logo, the hard disk starts up instead.

So what advantage is this? Well, hard drives work faster than floppy drives. Workbench appears within seconds of starting the machine. Also, hard disks can store more programs and data files. Rather than booting a Workbench floppy then running programs from different disks, you can have Workbench and all your programs on one great big disk.

The way it's been done is complicated, but it has a certain elegance. The hard disk interface (SCSI type) plugs into the expansion connector of a CDTV. A cable runs from this into the guts of the machine, to the hard drive which is located behind the RAM slot.

A hard disk was obviously earmarked for this space years ago, but only now have Commodore released it. It's difficult to fit one of these units yourself – you're better off buying one all ready built into a CDTV. The hard disk is a 60Mb Maxtor type, by the way – fairly rare but reliable and fast enough.

The downside is the documentation. You get Workbench 1.3.3 and an Extras disk, a 1.3 Enhancer manual (which tells you about CLI and Shell) and an A500 user's guide. That's right, a nice thick tome devoted to how to live with an A500. You do get a thin CDTV manual. Big deal. A more serious omission is the lack of a disk to re-install the hard disk if (more like when) it needs reformatting.

Apparently ZCL do have installation software on the way, and a shortish informative guide on how to get the best out of a hard drive. Personally I'd wait until they appear before buying one of these units.

> " ...it's available now, but it looks like an exercise in getting shot of some out-of-date manuals and Workbench disks "

If you don't push the hard drive there's no reason why you shouldn't get lots of use out of the system. In the real world, where hard drives develop read/write errors, this unit is too vulnerable without installation software. Is it useful? For tasks like word processing or databases, the combination of CDTV and hard disk is good – 2Mb of memory is big, even if some is consumed by the hard, floppy and CD drives. You've still got about 1.5Mb of storage left, which means *Deluxe Paint III* or *IV* can be used at any screen resolution.

For animation or DTP it's not as rosy. You can do more frames of animation than with a 1Mb A500, but if you want to expand the machine with, say, 4Mb of fast RAM, you can't. Outline fonts for DTP are not supported on Workbench 1.3, so you're stuck with jagged-edged bitmap fonts.

The HD CDTV is no better than the proposed A600 CD-ROM drive plugged into an A600HD, and is in many ways worse. Admittedly, it's available now (when will the A600 CD-ROM drive appear?) but it looks like an exercise in getting shot of some out-of-date manuals and Workbench disks. It's of value to experienced users, but not a first-time buy for novices.

HD CDTV
Available from Calculus
0543 251275

WHAT ABOUT THE A570?

The SCSI interface that comes with this unit plugs into the expansion port of an A570. Now, if you plug an A570 into an A500, then you can't plug in an external hard disk at the same time. If Commodore were to install this SCSI interface together with an external SCSI unit with its own power supply, then in theory that would be a much better system.

There are, however, snags. For one thing, that would mean three different plugs – computer, A570 and hard disk unit – not including the plug for the TV or monitor. Have Commodore have ever sold an external SCSI drive? It would hang out of the back of the A570. Finally, such a system would not let you plug any more memory into an A500; a common hard disk feature.

Some of the problems of Amiga CD are finally coming home to roost. If you want an Amiga with a CD unit, then you have to forgo some of the expansion potential of the machine in other areas. I guess this HD CDTV does fulfil a need – but let's hope CBM have a CD unit in the works with more in the way of expansion potential.



ZCL might sell a SCSI interface plus hard drive for the A570 – hassle them if you're interested.

HD CDTV

SPEED ●●●●
Quite a nippy performer, compared to other Commodore hard-disk Amigas.

DOCUMENTATION ●
The worst bunch of irrelevant information ever seen. Better promised and badly needed!

ACCESSIBILITY ●
How do you repartition? How do you reformat? You just can't tinker with the hard drive.

FEATURES ●●●●
A CDTV with these features is a respectable machine – shame it's poorly supported.

VALUE ●●●
It's pitched about right, but it's not really a bargain b..k buy.

Verdict **45%**

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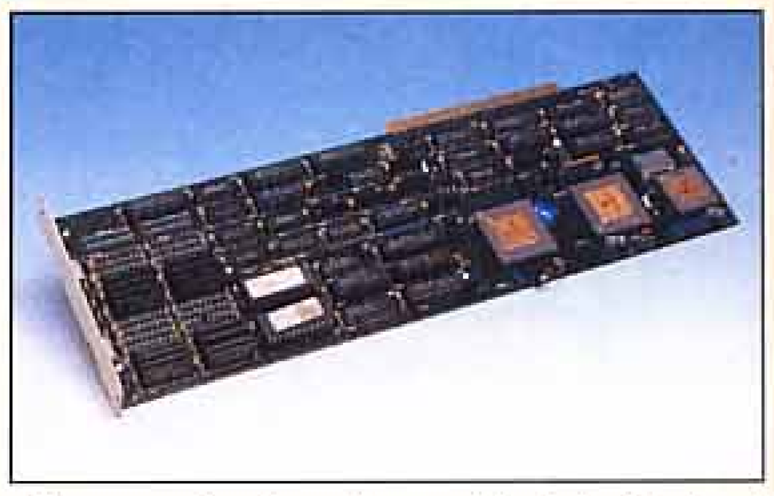


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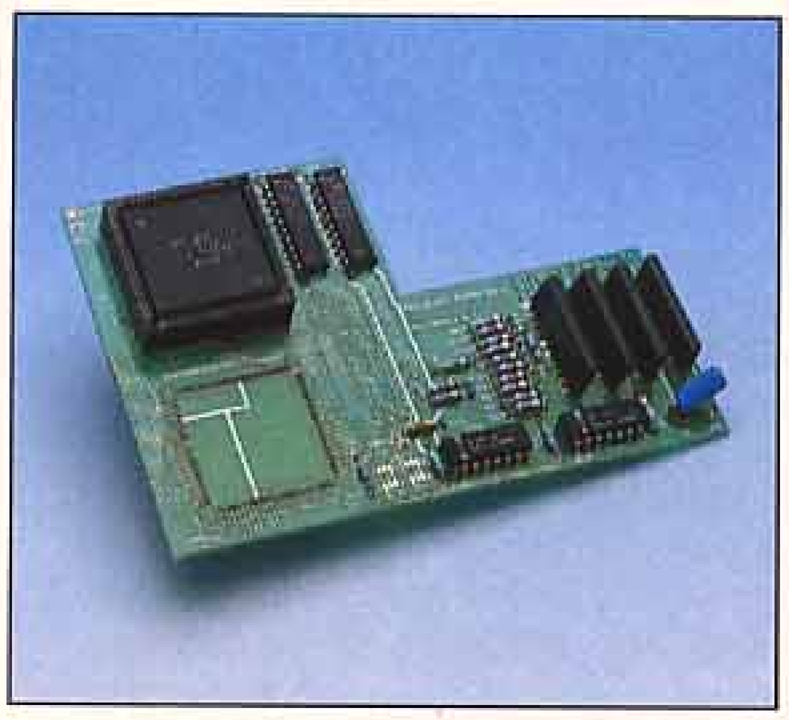
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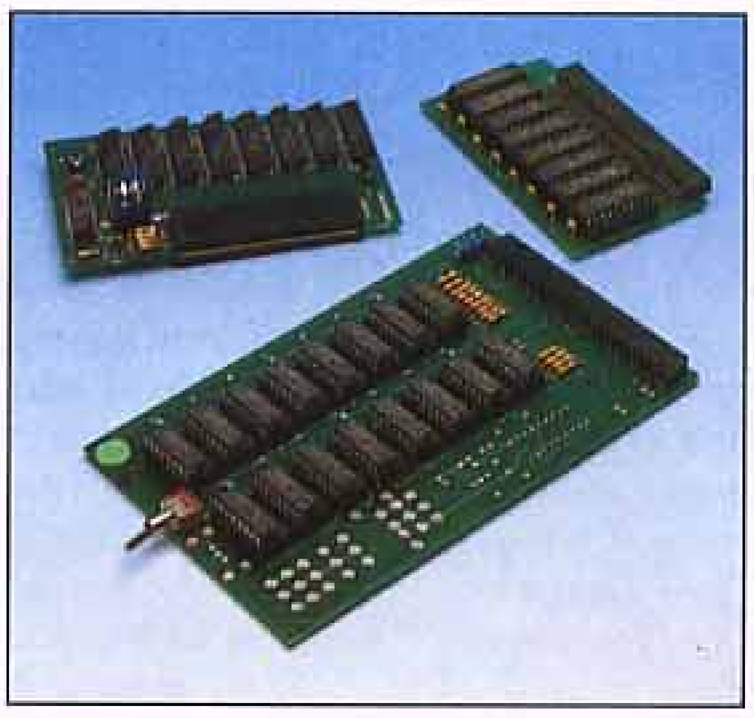
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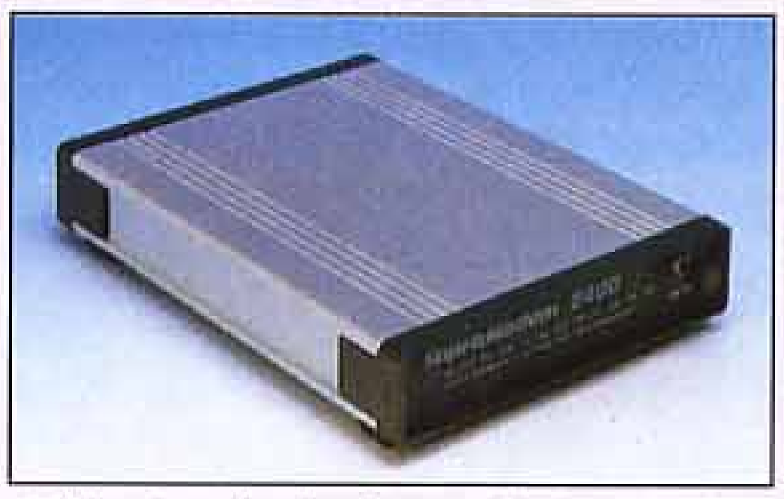
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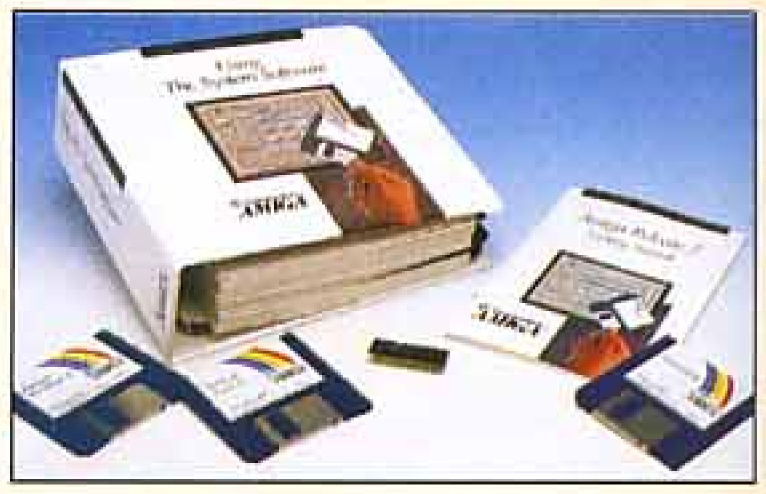
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Printer extra!

Jason Holborn tests two top printers as an addendum to our massive round-up of printers in Issue 39 of **Amiga Format**.

Ricoh LP1200

£821 ■ Laser Printer ■ Silica 081-309 1111

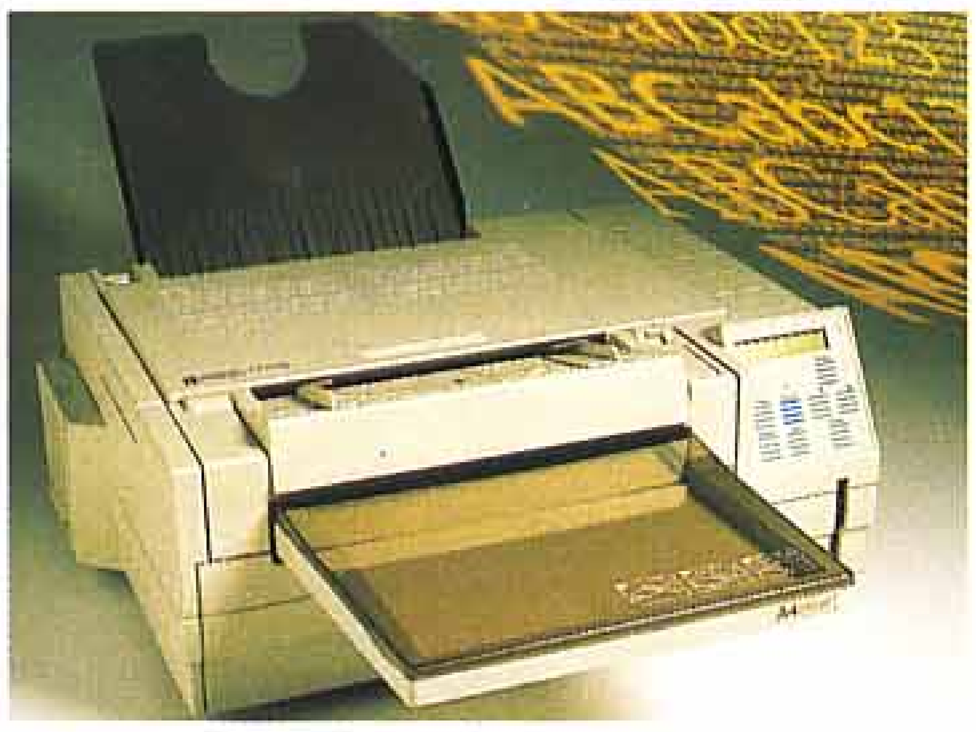
Because laser printers build up each page as a massive bitmap inside their internal memory, there's little point in buying a laser unless it's got massive amounts of RAM on board. This bumps up the printer's price still further, though you're not likely to get much change from £1,400.

But to save the pockets of Amiga users come Ricoh with their LP1200 laser printer, a fabulously well-endowed laser that comes with 2Mb of RAM as standard, a maximum printing resolution of 400dpi (100dpi more than your average laser) and a bunch of bitmapped and Agfa Compugraphic scalable typefaces. Typefaces on offer include Courier 10 and 12, Prestige 12 and 16, Gothic 12 and 16, CGTimes and Universe (both of which can be scaled). This impressive selection scores high.

The Ricoh comes with a variety of different emulation modes including the usual HP LaserJet 3, EpsonX, IBM ProPrinter plus Layout, a sort of mini-PostScript page description language. Surprisingly though, PostScript is not currently available as an option.

Then there's FlashROM. This technique was devised by Ricoh to enable the printer's operating system to be updated simply by streaming a file down the parallel port from your Amiga. Unlike other lasers, there's no chip changing, so you don't have to have a degree in electronics to perform the upgrade. Technically this should enable Ricoh to stay bang up to date while other laser printers become redundant. Ricoh have announced that they plan to release an Amiga driver for the LP1200 which will enable you to print at 400dpi.

There's never been a laser printer that truly worked with the Amiga, but the LP1200 has changed all that. Thanks to Ricoh's dedication to our market, it is currently the only laser printer that can be driven to its full potential on the Amiga. Combine this with its great value for money and there's no doubting that the Ricoh LP1200 is a fabulous piece of kit.



And you thought that you would never be able to afford a laser printer for your Amiga. Think again.



Here's a mock-up of a fanzine produced in *ProPage* and output to the Ricoh laser. Pretty impressive eh?

Ricoh LP1200

SPEED ●●●●
Lasers are never particularly fast, but the LP1200 is certainly no slouch.

DOCUMENTATION ●●●
The LP1200 manual is a little vague in places, but on the whole it's a pretty good read.

ACCESSIBILITY ●●●●
Set the Workbench printer driver to HPLaserJet and print away! Couldn't be easier.

FEATURES ●●●●●
You'll find the LP1200 leaves even its more expensive counterparts for dead!

VALUE ●●●●●
2Mb of RAM and all those fonts for just £821? Now that's what I call a bargain!

AMIGA FORMAT GOLD **92%**

HP PaintJet

£820 ■ Colour Inkjet ■ HP 0344 369222

One thing that an inkjet can do that your average laser would be hard pushed to handle unless you're prepared to spend megabucks is colour printing. One of the best available is the Hewlett Packard PaintJet.

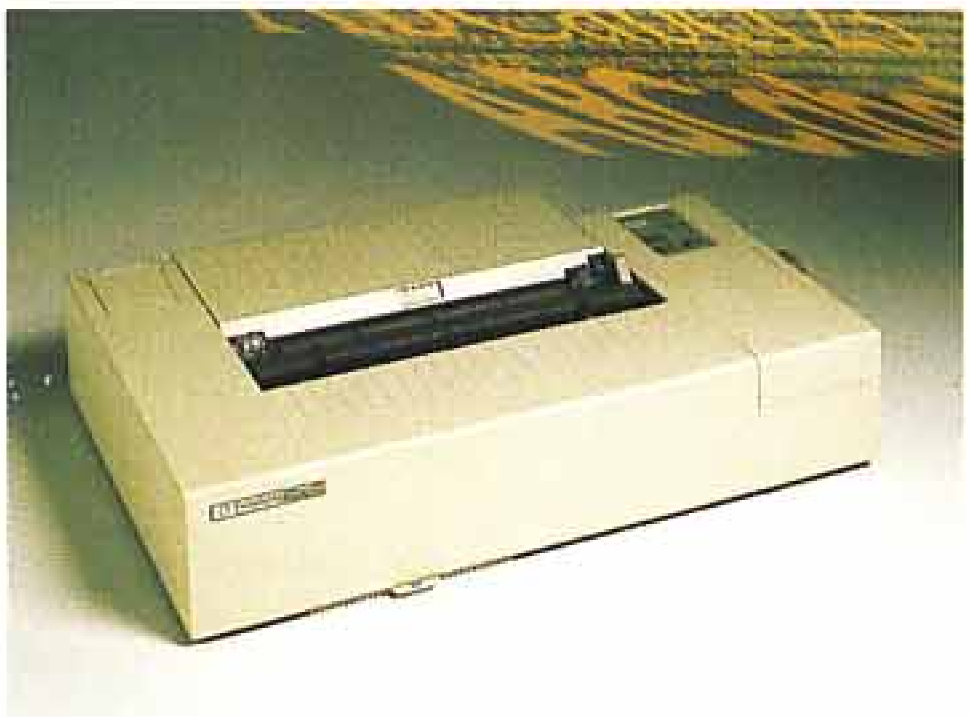
The PaintJet is a no-nonsense slab of plastic, metal and electronics that produces some of the best colour printouts seen this side of a colour PostScript laser. When the PaintJet was originally released, it was the first of its kind. As a result, the PaintJet offers only one emulation mode – HP PaintJet. Thankfully, though, a PaintJet driver is directly supported through the Workbench Preferences system, so getting a decent printer driver is no problem.

Printer performance is pretty impressive. Notching up a very respectable 167cps (characters per second) in 10 cpi (characters per inch) mode, the PaintJet is capable of a maximum text output speed of 300cps in 18cpi mode.

It offers two typefaces – the usual Courier plus a more usable Letter Gothic. Both of these produce very acceptable results.

Of course, no-one buys a colour inkjet to print text – the true benchmark of a printer of this kind is how well it can print pictures in full colour. Using the special paper which is bundled with the printer (normal copier paper makes for rather washed out images), the PaintJet produces images which are really quite excellent. The prints are quite fuzzy and blurry, but this works to smooth jagged bitmaps, and the colours are rich and saturated. And this colour ability is what puts the price up to parity with the LP1200 (and £820 for an inkjet is pricy).

If the laser is the dream printer of the desktop publisher, the HP PaintJet must surely be the dream printer for the rest of us. If you're proud of your *DPaint* creations and you can afford to both buy and run the PaintJet (running costs are a little high) you'll find it the perfect companion. If only it were cheaper...



Great colour, speedy printing and a readable manual all combine to make a superb, if expensive, printer.



Now that's what I call impressive – try getting colour print-outs of this quality from your average dot-matrix!

HP PaintJet

SPEED ●●●●
Considering the complexities of colour printing, the PaintJet certainly doesn't hang about.

DOCUMENTATION ●●●●●
The PaintJet manual is a joy to behold – there's even a section in there dedicated to the Amiga.

ACCESSIBILITY ●●●●
Plug in, switch on, print out and *voilà* – you get beautiful colour pictures (if you can draw them that is).

FEATURES ●●●
The range of fonts is a little lacking, but who cares when it prints pictures so well.

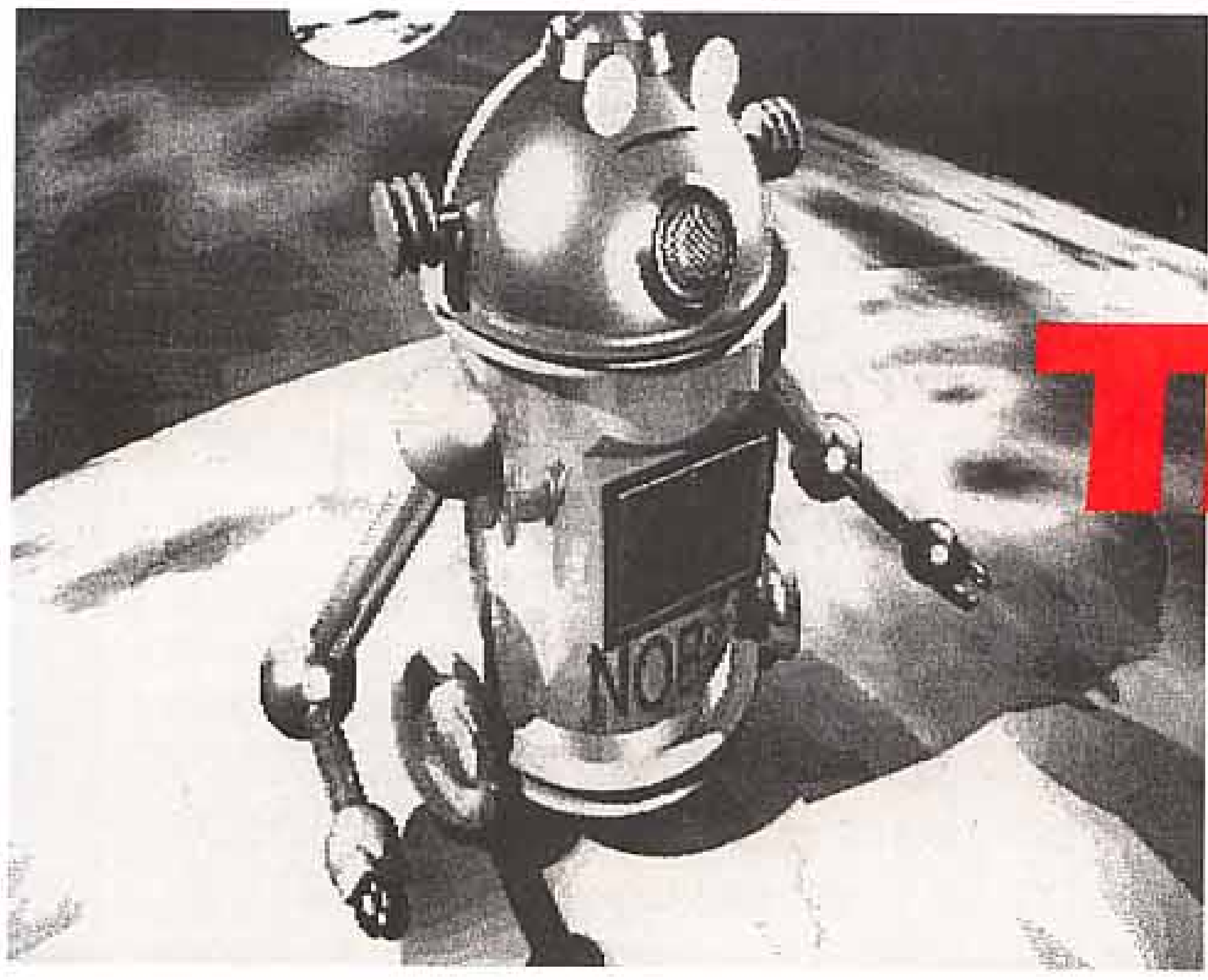
VALUE ●●●●●
You've got to be serious about your graphics to splash out on this baby.

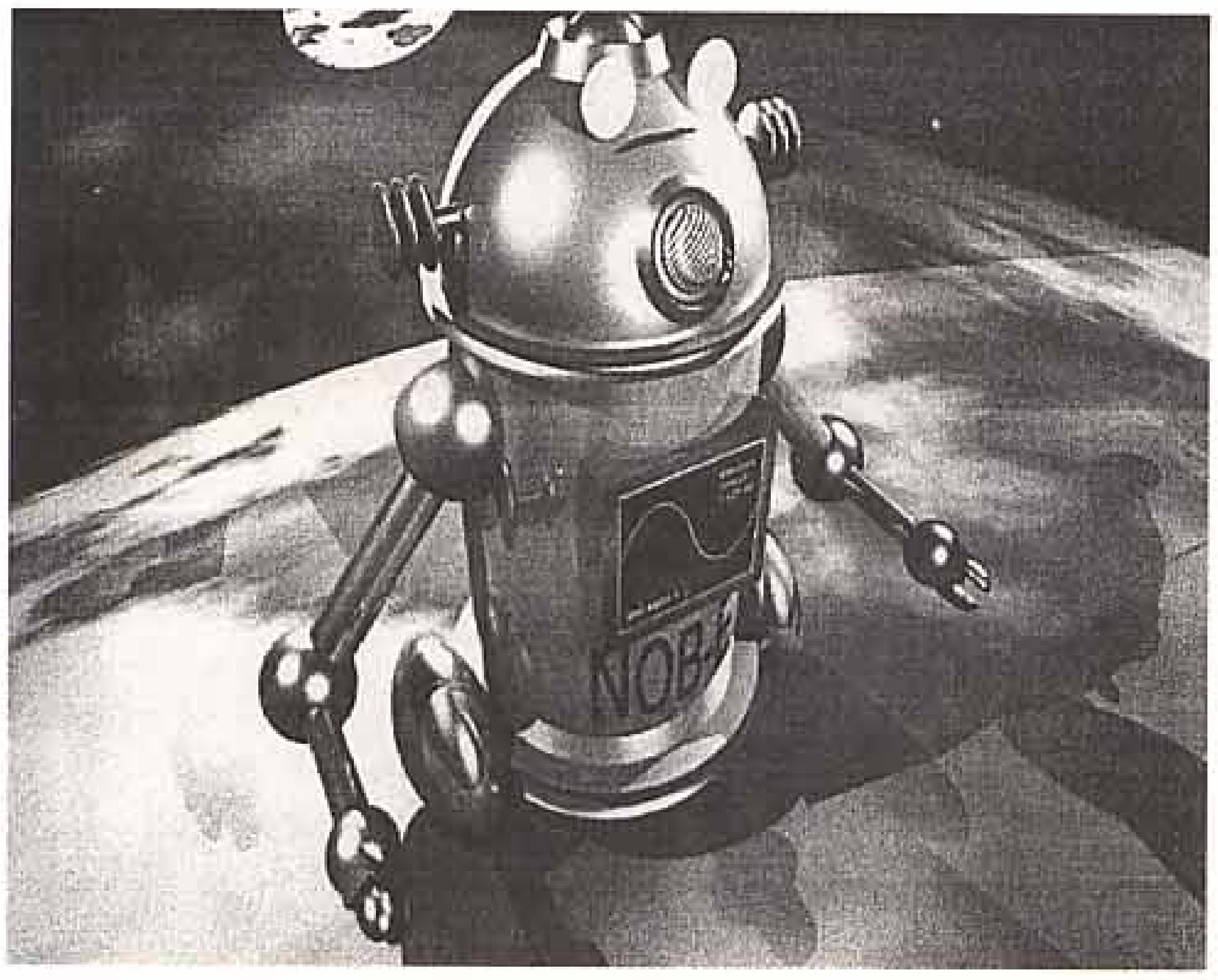
AMIGA FORMAT Verdict **82%**

How do you improve print-out quality? Easy, you get ASDG's latest enhancement program that can also handle 24-bit images. **Jason Holborn** does the paper test...

TruePrint/24

£59.95 ■ 24-bit printing utility ■ ASDG





The key to 24-bit printing is not how many diverse colours you get, but the way in which subtle shades of similar colours can be increased to give more realistic shading. The HAM image *(top)* looks inferior to the 24-bit image *(bottom)* because it lacks enough shades of grey.

IF THERE'S ONE aspect of the Amiga's operating system that is a little lacking, it must be printer support. Although Commodore have tried their utmost to provide their customers with a fairly comprehensive selection of printer drivers, the results that can be obtained are far from ideal. Even with the release of the simpler Workbench 2.04, by far the greatest number of queries we receive come from frustrated printer owners.

But times are changing. Now that several printer manufacturers have woken up to the importance of the Amiga, we're starting to see more custom drivers released that enhance print quality immeasurably. Third-party software vendors have been quick to jump on the bandwagon too, with products such as IrseeSoft's *TurboPrint Professional* leaving Commodore's official printer drivers for dead. So is there still room for improvement? ASDG certainly seem to think so because they've just released *TruePrint/24* (it has nothing do to with the photo developing company though).

Based around the Preferences Saver module built into the latest release of *Art Department Pro*, ASDG's wondrous image processing program, *TruePrint/24* has been designed to enhance the quality of your printouts without having to mess around with new printer drivers. *TruePrint/24* sits between the Amiga drivers and your printer, improving your printouts with the sort of style that you'd expect from an ASDG product.

Unlike a program such as *TurboPrint Pro*, *TruePrint* doesn't run in the background, so it won't enhance the quality of printouts from other programs. Instead, you'll have to save the graphical output from your favourite paint or ray-tracing package as an IFF file and then load it into *TruePrint/24* when you want to transfer it on to paper. Once loaded, *TruePrint/24* presents you with a grid-like display with a single requester containing all the program's options.

> “ If you attempt to print a HAM picture, it just churns out greyscale printout. ”

Each rectangle within this grid represents an A4 page. It is perfectly possible to load a picture into *TruePrint/24* and then expand it so that it fills several of these rectangles. When you print, *TruePrint/24* expands your image and then chops it up into individual pages which it dumps out to printer. Once all the pages have been printed, you can then piece them together to form massive posters of all your IFF artwork. Sounds great doesn't it? And it is great if you're printing a massive 1,024x1,024 bitmap, but standard low-resolution pictures tend to look rather 'chunky' when blown up to these sort of proportions.

You're probably wondering what the extra '/24' bit in *TruePrint*'s name is all about. Well, if you're the sort of flash type who plays around with 24-bit graphics, you'll be pleased to know that *TruePrint* can also handle true-colour images. If you want to print a picture as complex as this using a normal printer utility, the results you'd get would be poor compared to the 24-bit image source file. To get around this, *TruePrint/24* uses a clever system that represents each shade of grey (if you're using a mono printer) in 8-bits compared to the usual 4-bits. What all this means is that instead of printing the usual 16 shades of grey that *DPaint* will produce, *TruePrint/24* can produce greyscale printouts containing a theoretical 256 shades of grey.

All well and dandy, but there's one big problem. Unless you're printing 24-bit images, *TruePrint/24* assumes that you want a greyscale printout regardless of whether you're the proud owner of a colour printer or not. Even if you attempt to print a HAM picture, *TruePrint/24* churns out greyscale printout. This isn't too much of a problem if you own *ADPro* (you can convert your HAM picture to a 24-bit image), but then the average *DPaint* user is unlikely to need or even want to spend £200 on *ADPro* just to get better quality colour printouts. This really should be fixed. As it is, *TruePrint* is only of real use to mono printer owners or those of you evolved in 24-bit graphics work.

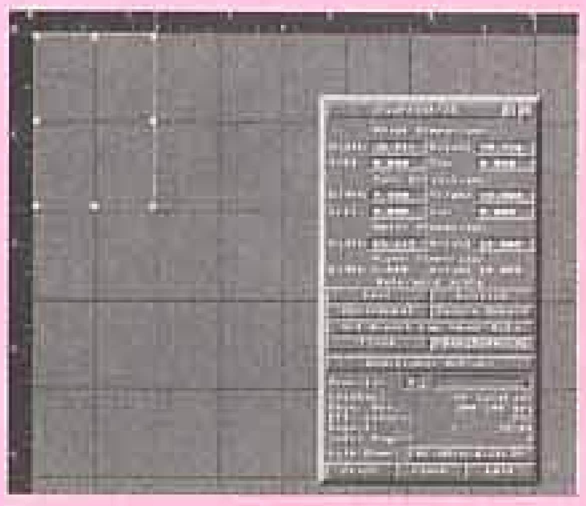
Gripes aside, *TruePrint/24* produces some very acceptable results. When printing to a 24-pin or an inkjet printer, the quality of greyscale images is quite stunning. It must be said, though, that with colour images the increase in quality isn't really that noticeable unless you're working with 24-bit images – HAM images, in particular, don't seem to benefit.

It would have been nice to have been able to enhance colour printouts of HAM images too. If you want to print out standard Amiga images, you're probably better off with *TurboPrint Pro*.

If you work with 24-bit images, you probably already own *ADPro*, so there's very little point in buying this program too. In all, *TruePrint/24* is classic example of a missed opportunity.

TRUEPRINT/24
is available from Silica Systems on 081-309 1111

PLAY THE LAST POSTER



Feel like making a big name for yourself? Well grab a copy of this program and you will be able to.

TruePrint/24 can produce massive, tiled, poster-sized printouts of any IFF file. This even includes 24-bit images for when you want some really impressive prints.

TruePrint/24

SPEED ●●●
Printing greyscale images is quite swift, but 24-bit images take an eternity to print.

DOCUMENTATION ●●●●●
As you'd expect from ASDG, the *TruePrint/24* manual is top notch.

ACCESSIBILITY ●●●●
Based around the *ADPro* user interface, *TruePrint/24* is very easy to use.

FEATURES ●●●
Limiting colour printing to 24-bit files only is a real drawback.

VALUE ●●●
Save your money and put it towards either *ADPro* or *TurboPrint*.

Verdict **68%**

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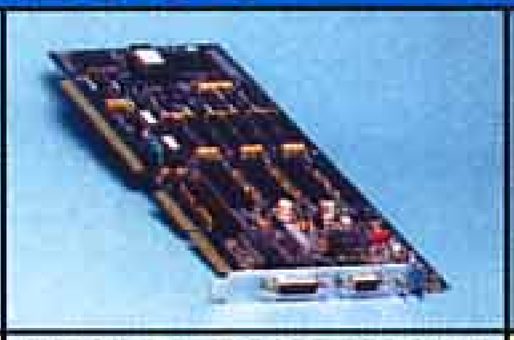
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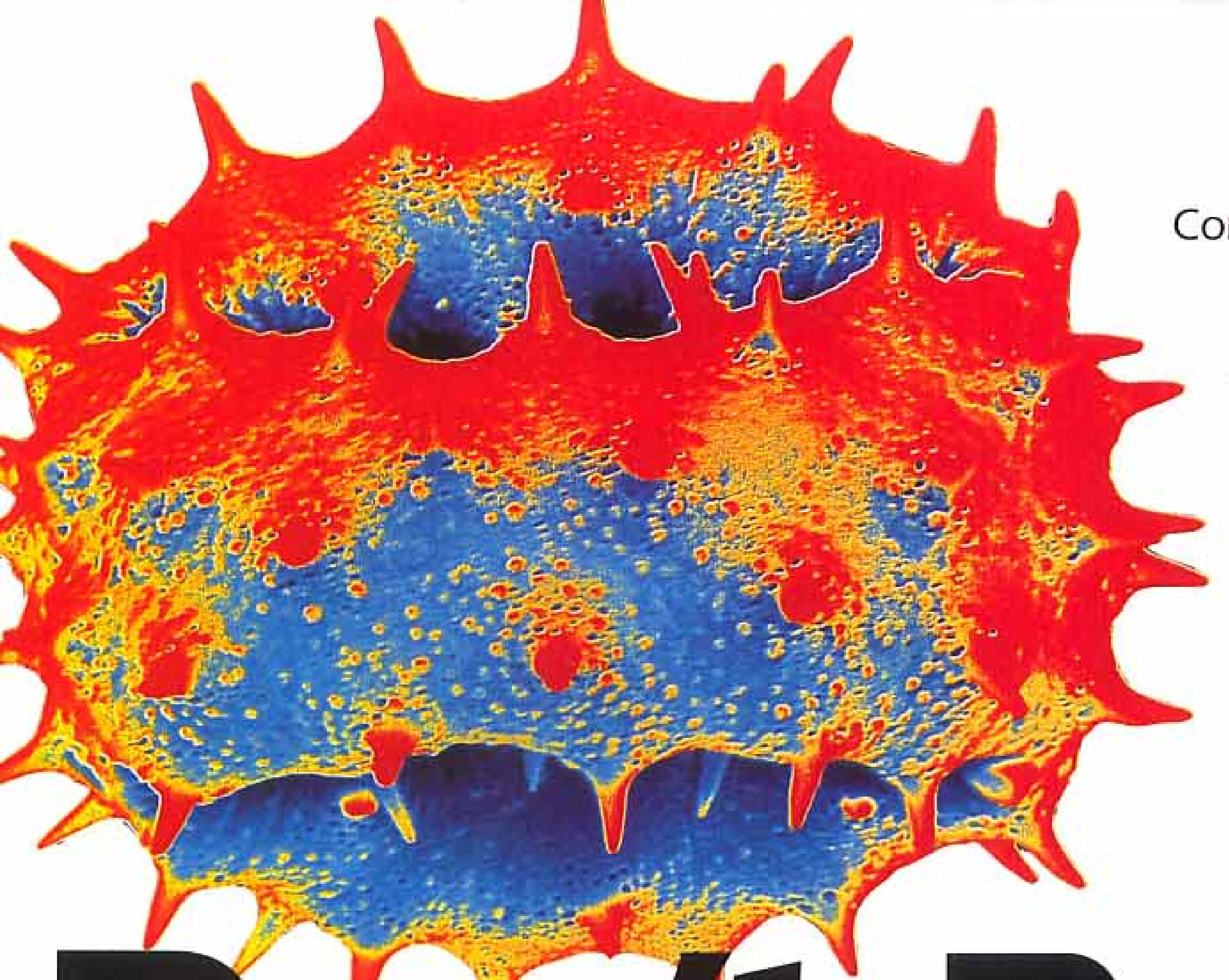
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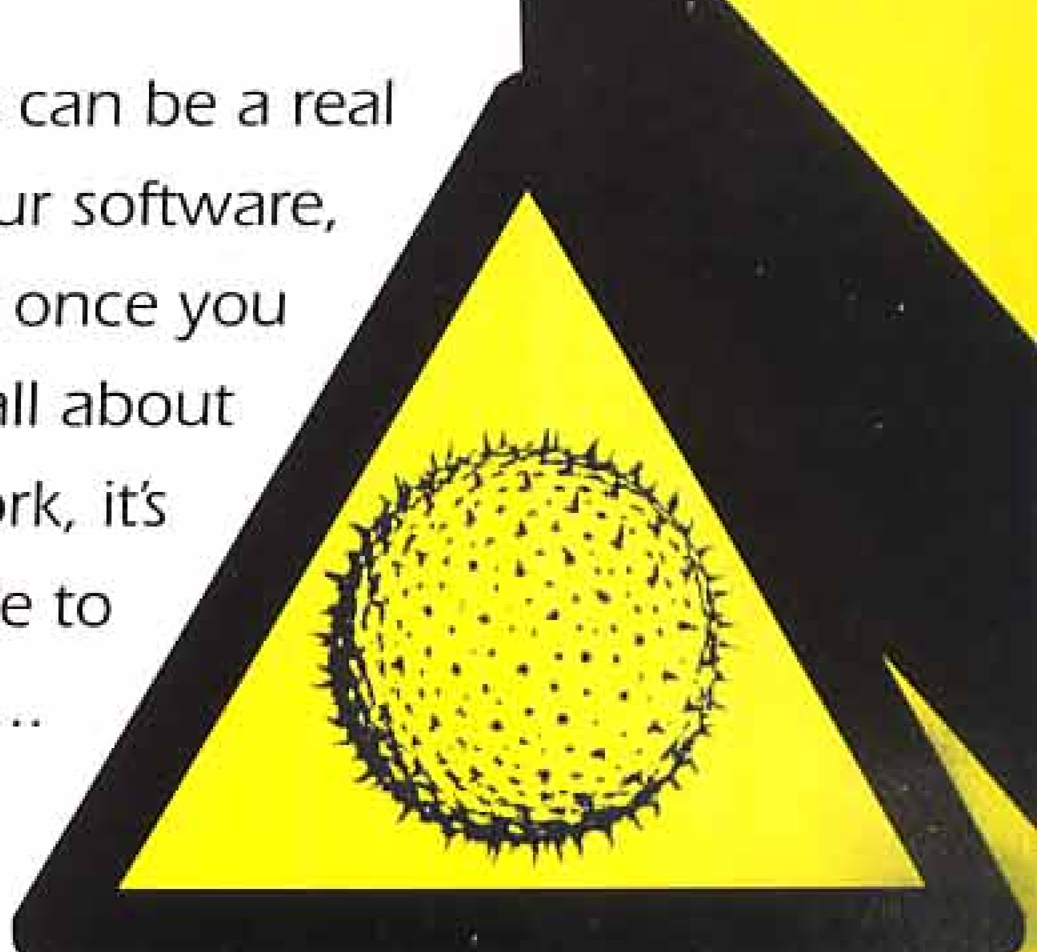
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Computer viruses can be a real danger to your software, no doubt. But once you understand all about how they work, it's terribly simple to stay safe...



Don't Panic!

Q What is a virus?

A A virus is just a small computer program. The big difference is that it's not under your control: it will run itself and do whatever it does without you ever knowing it's there.

Q So what does a virus do?

A Basically, viruses are out to cause mischief. All viruses make copies of themselves. Some of them also damage your data.

Q Why are they called 'viruses' anyway?

A Because they work by making copies of themselves, they're a bit like living organisms. They also do harm to your disks, the same way a virus makes you ill.

Q Where do viruses come from originally?

A Viruses travel in company with other programs. In other words, on disks, though if you download programs with a modem you could pick up a virus that way.

Q How do I know if I've got one?

A Many viruses you wouldn't notice even if you had them. Some can damage data on your disks, make your machine crash or produce strange effects when you are running programs. There's a lot more information on the effects of viruses in the following pages.

Q How do I get rid of a virus I've caught?

A You don't necessarily have to, but usually you can remove viruses from disks using virus hunter-killer programs. More details on these over the page, too.

Q How do I protect myself against viruses?

A Don't worry! It's incredibly easy to protect yourself against viruses. It may be as simple as just switching off your computer every time you play a new game. So long as you understand how viruses work, you'll know what to do. So read on!

THE LOCH NESS MONSTER, THE YETI AND MORE...

People are often afraid of viruses simply because they don't understand them. Here's some of the ludicrous myths that have arisen at one time or another about computer viruses...

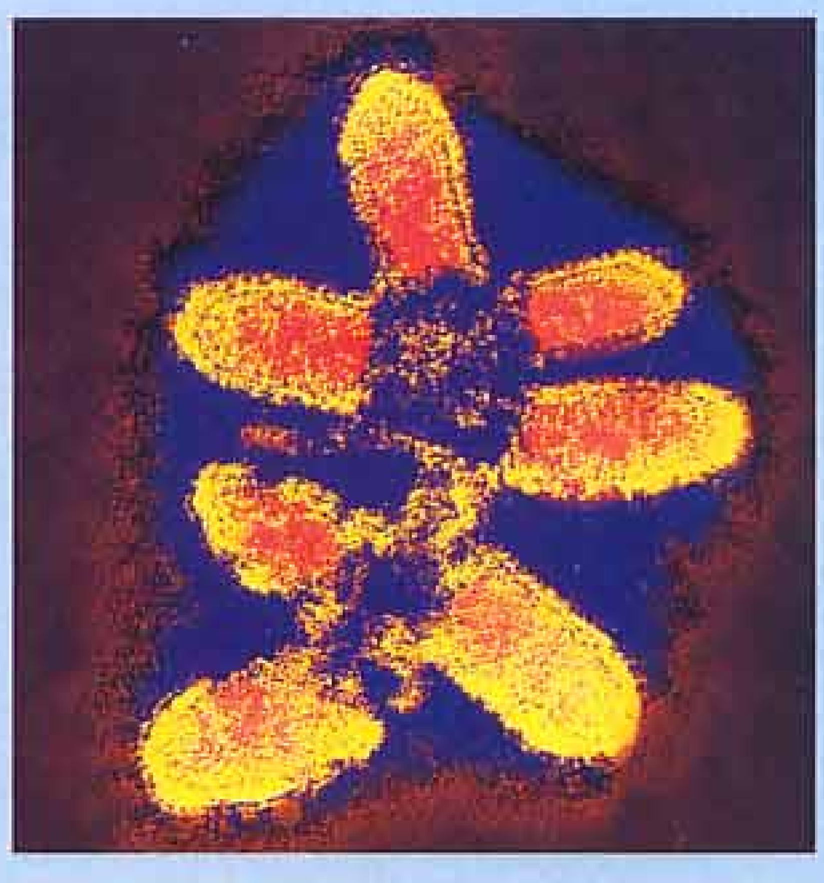
1 'People can catch them.' I know this sounds incredibly stupid, but a popular American magazine did in fact run a scare story a year or so ago saying that people were in danger of infection from viruses in virtual reality systems. Don't worry, that's utter tosh.

2 'A disk with a virus can infect other disks if they are kept next to each other in a disk box.' This story was widely believed by some students at a London college – until we laughed at them...

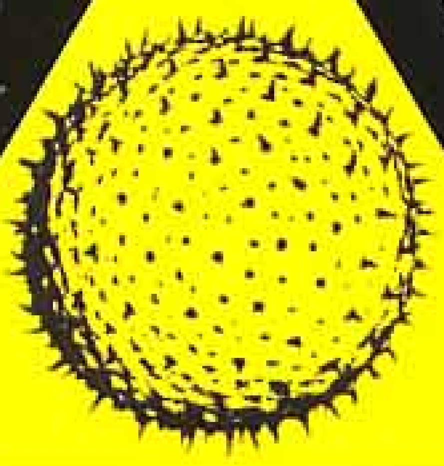
3 'Viruses from one computer can affect another computer.' Since viruses are programs, this is no more true than saying 'an Amiga can run programs from other computers' – it can't.

4 'Viruses can damage hardware.' No, no, no, no, no!

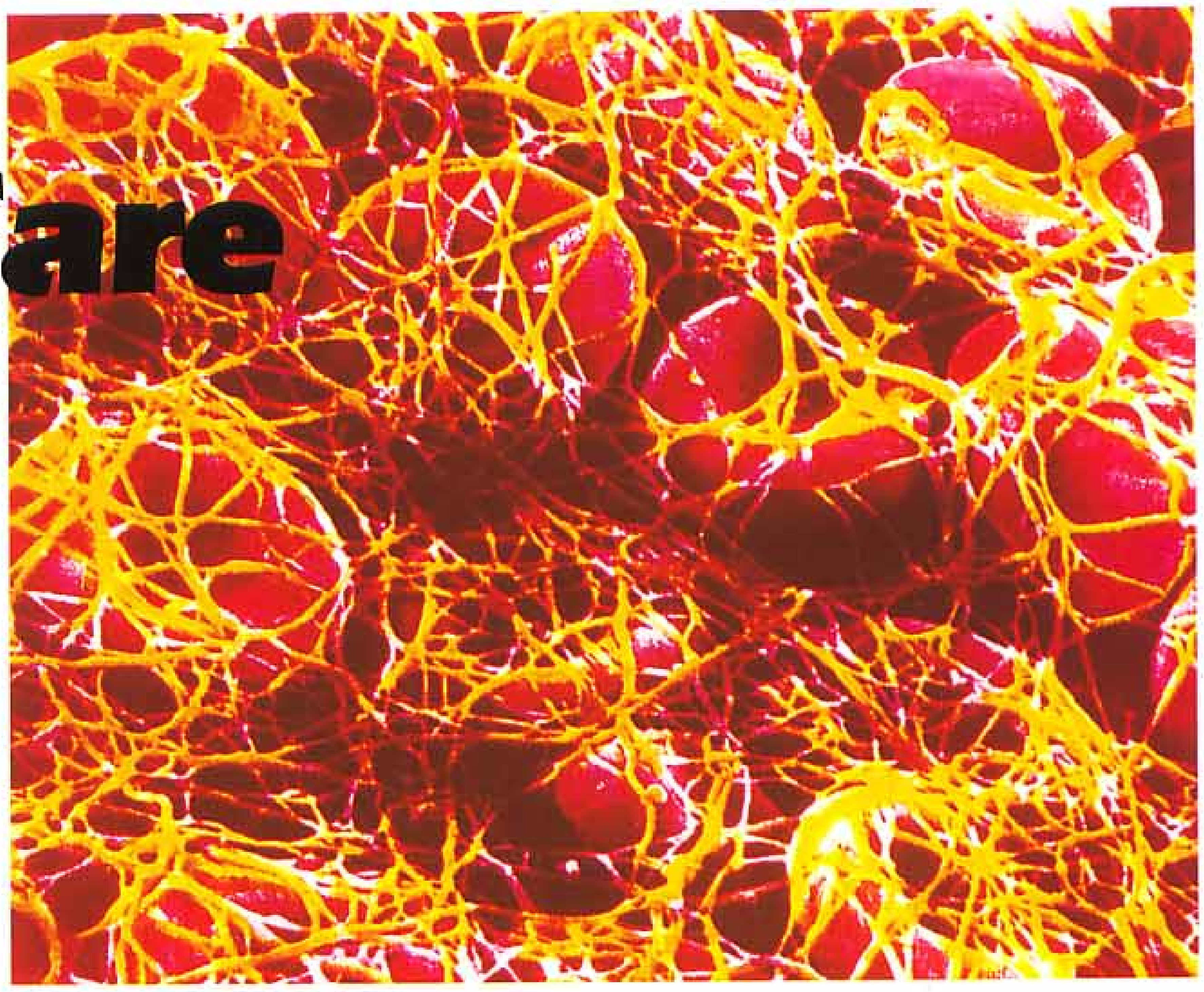
5 'A virus can live in a battery-backed-up clock.' This just ain't possible, because even though there is RAM memory there, it's simply not enough to be able to store a virus in.



Germ Warfare



A computer virus can infect your Amiga if you don't take the right precautions. So learn how to have 'Safe Computing' with **Pat McDonald's** protect-and-survive guide...



HOW DO VIRUSES work? In order for them to be able to spread, they must be able to infect any disks that you happen to insert. This means they have to patch themselves into the Amiga, while you carry on with your computing. They then hang around, waiting for fresh disks to infect.

Because viruses are programs, at some stage they have to be run through the processor. Viruses usually don't just hang around on a disk, hoping that you'll accidentally click on them. Instead, they disguise themselves as commonly used programs of the Amiga system. Once they are activated – this usually happens without any direct action on your part – they may copy themselves on to other disks as they see fit.

I say may copy, because some viruses are sneaky, and don't always infect a disk. Instead, they wait until the right moment (say when you are saving a file) to infect a disk. Others are less subtle, and infect all the disks they can. Some viruses cannot infect certain kinds of disk – others can infect any type. If you keep getting requesters saying that the Amiga needs a certain disk, then a virus may well be at work.

There are two very simple methods for stopping any virus from infecting more disks. When you switch the machine off for a short space of time, all programs in memory are forgotten. If you do this before starting any new disks, then a virus cannot spread. Furthermore, if you move the write-protect tab at the corner of all disks, then the disk cannot be written on and is virus-proof.

Real life isn't that simple though. For one thing, serious users need access to many programs, and switching off in-between using them is really time wasting. Everyone needs to

YOU ARE NOT COVERED

If you suffer virus damage and suffer a financial loss to your business, you can claim compensation. If a virus wipes out your games collection then you get nothing. Tough old world innit?

THE TOP TEN MOST COMMON VIRUSES

1 The SCA was the first Amiga virus. Written by the Swiss Crackers Association (a bunch of pirates), it is capable of copying from bootblock to bootblock, so your games stop working.

2 The Byte Bandit infects disks when programs are accessed and it then crashes the machine. It can be bypassed, but it's better to use a hunter-killer to get rid of it.

3 The IRQ is a file virus. It usually infects the program which is listed first in the startup-sequence. Hunter-killers are the best way to deal with it.

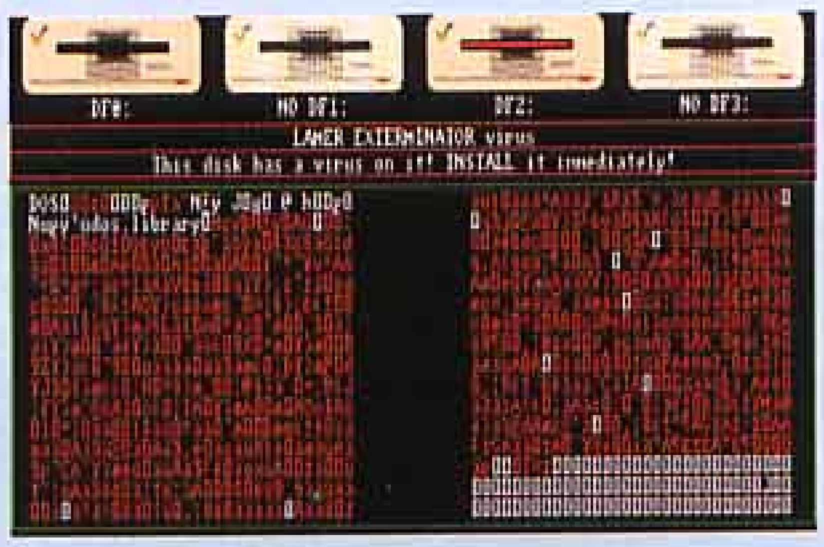
4 The Lamer Exterminator is an especially vicious virus. As well as spreading fast it will destroy disks at the drop of a hat, writing the word Lamer all over them.

5 Revenge of the Lamer Exterminator is totally different – it's not found on a bootblock. It's a file with no name that inserts itself into a startup sequence. It was first spread by a bulletin board, under the name *DOSSPEED*, a program supposed to speed up floppy disk access by 800 per cent – many gullible people have lost out.

6 Return of the Lamer Exterminator pretends to be a disk-validator file (it was the first recorded virus to use this method). It cannot infect game disks, it can destroy them and Workbench disks too.

7 The Saddam first appeared during the Gulf War. Again, it's a disk-validator virus, but a cunning one. It can encode disks so that the virus has to be present for them to work.

8 BGS9 is a file type virus. Once it has infected, it will display this message: 'A computer virus is a disease, Terrorism is a Transgression, Software Piracy is a crime, This is the Cure'. It's not that successful at attacking pirated disks, but it's a very persistent virus that needs a hunter killer to see it off. Hides as a blank file of 2,608 Mb length in the devs directory, so it's not too difficult to spot.



One of the infamous Lamer Exterminator viruses about to be destroyed.

9 The CCCP virus starts on a bootblock, but can infect disks by writing files on them too. Difficult to get rid, and a hunter-killer is the only real solution. Believed to have originated in the Eastern Bloc, when there was one.

10 The Travelling Jack is a real nuisance to hard drive users. It's very small, yet climbs deep down into the Amiga, to infect as many files as it can get access to. TJ can rapidly fill a hard drive under the right conditions.

SECRET LIFE OF A VIRUS WRITER

Viruses are programs, and so have to be written by programmers. By and large most viruses come from the Assembler or C compilers of dedicated programmers.

There is more to writing a virus than being able to program. In order to infiltrate the system, virus writers have to have at least a little knowledge of how the Amiga system works. Knowledge of which routines are used for reading and writing disks are vital if a virus is to be able to replicate and infect disks.

All virus writers are selfish. The degree of this varies – some are totally unhinged, believing themselves to be divine and everyone else as unworthy of attention. They seldom consider the consequences of their actions.

The motives of virus writers fall into three categories. First comes greed. Although there are no official cases of this on the Amiga, on the PC it's a fairly common for a virus to appear, demanding money be sent to a bank account or the virus will destroy all data. It seldom works if the user goes straight to the police.

The second, much more common motive is revenge or vandalism. Some



When a virus hits the headlines in a big way, that's when these sick people get a real thrill.

programmers get a kick out of destruction, especially if the intended victim is a new user who doesn't know how to protect themselves. Although no programmer of commercial software has ever admitted to writing a virus, some viruses show anti-piracy behaviour and just love to spread through pirated software collections.

The third motive is publicity. Virus writers almost never admit their activities, and so the only time they get to know of how successful their creations are is through the computer press.

save a file (even gamesplayers need to save sometimes). But the worst problem is human laziness. Amigas, regrettably, are easily reset through the keyboard. Most viruses can survive this. Who can be bothered to set the protect tab or turn off the machine?

You'd better be, because if not you are right in the virus firing line. You may never suffer from one, but if you do, then a lot of your software may be destroyed. Even worse, if you are using your Amiga as more than just a games machine, then you could lose many hours' work in a very short space of time.

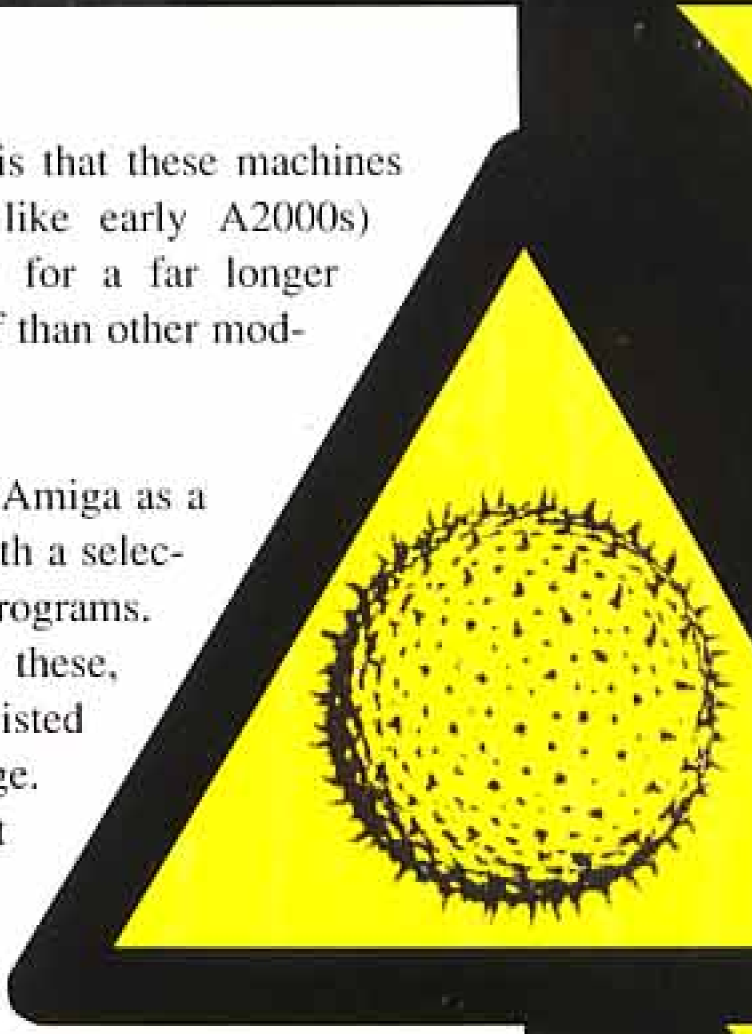
In many ways, gamesplayers have it easy. A lot of games switch off the operating system, which stops any virus dead in its tracks. Games which use the operating system (or parts of it, for loading and saving files) are susceptible to viruses though, so don't think you're totally safe.

Incidentally, the time you leave the machine off is important. Generally 30 seconds or so will suffice. A500 Plus users, however, need to turn off the machine for much longer periods – four or five minutes.

THE VIRUS SAFARI

For some people discovering and publicising viruses is a hobby. When a new strain is identified, it is posted to one of the programmers who write anti-virus programs. The organisation behind this is Safe Hex, founded by the legendary virus finder Erik Loevendahl Soerenson.

The reason for this is that these machines (and some others, like early A2000s) remember programs for a far longer time when turned off than other models of Amiga.



People who use the Amiga as a tool are better off with a selection of anti-virus programs. There is a range of these, some of which are listed in a box on this page. Which one is best depends on the situation, but there are three ways to fight viruses.

First are the system monitors, which check for viruses that are already operational in the machine. Second are the checkers, sometimes called hunter/killers, which can examine disks for viruses and zap them if found. Third are the doctors, which can attempt to repair disks damaged by viruses.

The most common variety of Amiga virus is the bootblock or limpet type. Whenever you boot from a floppy disk (turn on or reset your machine and put a floppy in the drive) the first thing the computer does is to read the first track of the disk – the bootblock – and execute it as machine code.

Normally, a bootblock is mostly empty, it just says 'Load and execute the startup-sequence as normal'. So there's quite a bit of space on a bootblock for a virus, which infiltrates the system, then executes the startup-sequence as normal. If a different disk is then inserted, the virus may copy itself on to the bootblock of that disk.

THE TOP TEN ANTI-VIRUS PROGRAMS

1 John Veldthuis' *Virus Checker* is updated to deal with new viruses, has a facility for checking the memory for viruses and can fix disks damaged by Saddam. Checks disks as you work, so is ideal for hard disk users. Shareware.

2 *Nuke!* is excellent for placing at the beginning of floppy disks that auto-boot. Checks the memory for viruses and disks for disk-validator and other types of virus. Also good at taking care of Saddam. Written by Pazza of LSD. Freeware.

3 *BootX* is excellent for recording the bootblocks of disks. If you run your disk collection through it and suffer a boot-block virus, you can wipe it off and put the original bootblock back. Shareware.

4 *Master Virus Killer 2.1* by Xavier LeClerq can cope with fewer viruses and is about a year behind the current crop of nasties. Originally released as shareware in the UK. Later versions of the program are commercial, and sadly, they are hard to come by.

5 *VirusX* by Steve Tibbet is one of the original hunter-killers. Version 4 used to be the standard anti-virus program. Sadly the program hasn't been updated to deal with new viruses. Shareware.

6 Jonathan Potter's *ZeroVirus III* introduced the brainfile idea, that is it can learn how to recognise new viruses. The problem is it doesn't work on Workbench 2, and so has fallen into disuse. Shareware.

7 *Zero Virus II* should have been made obsolete by *ZV3*. However, this version does work with Workbench 2. But it's not very good, and can recognise few of the more modern viruses. Shareware.

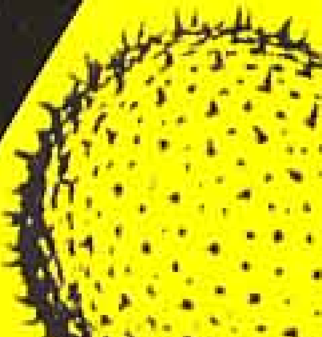
8 *Kill Da Virus 3* was one of the first combination packages. It can scan disks for bootblock viruses, get rid of BSG9s and early file viruses. Was regarded by those who understood how to use it. However, *KDV3* has a tendency to wipe custom game bootblocks. In competent hands it's a deadly tool but most people need something simpler. Freeware (I think).



The Master Virus Killer is very easy to use and can cope with about 70-80 per cent of viruses.

9 On-Line's virus killer was released a year after the first incarnation of the SCA bootblock virus, and looks as if it has never been updated, but On-Line release free upgrades. Seems cheap until compared to a shareware or freeware product.

10 The Abacus *Virus Protection Toolkit* is a better commercial attempt. A full suite of utilities on disk to remove viruses and it correctly predicted the appearance of disk validator files, comes with two books on virus theory.



Bootblock viruses would not be such a major problem if it were not for the fact that a lot of games have their own personal, customised bootblock. If this is overwritten by a virus, then the game will simply not work any more. Which means writing off to the relevant software company in order to get a replacement game, costing you extra time and money.

Another common problem with games is that inexperienced people often mistake games' bootblocks for viruses. It's easy enough to get rather spooked by messages like 'Unknown bootblock – could be a virus' when using virus-checker programs. Some early bootblock-investigation programs mistakenly identified normal game bootblocks as viruses! The moral of the story is: if it works, then leave it alone.

There are other types of virus that exist as files on a disk, just like any other computer program. They usually manage to infect other disks by making sure they are run from the startup-sequence (or a program that is already called from the startup-sequence).

Another method of infection relies on the virus actually replacing the disk-validator file that is found in the L directory of many Workbench 1.3 disks. This file is read and executed whenever a disk is inserted and Workbench is running.

Where precisely do computer viruses come from? Well it could be virtually any floppy disk that you happen to run across. Pirated games software most definitely has to be the number one source, for various reasons, but mainly because a lot of viruses are targetted specifically at pirates.

Pirated games are copied and recopied many times, enabling a virus to enter at any previous copy stage. It used to be the case that Public Domain libraries and bulletin boards were absolutely rife with viruses. While new viruses do break out and run rampage occasionally, in the main these areas have got wise to viruses and contain them by the use of the right virus-checking software. It's not very easy to check archived programs and data, but virus activity is definitely much less frequent on PD disks than previously known.

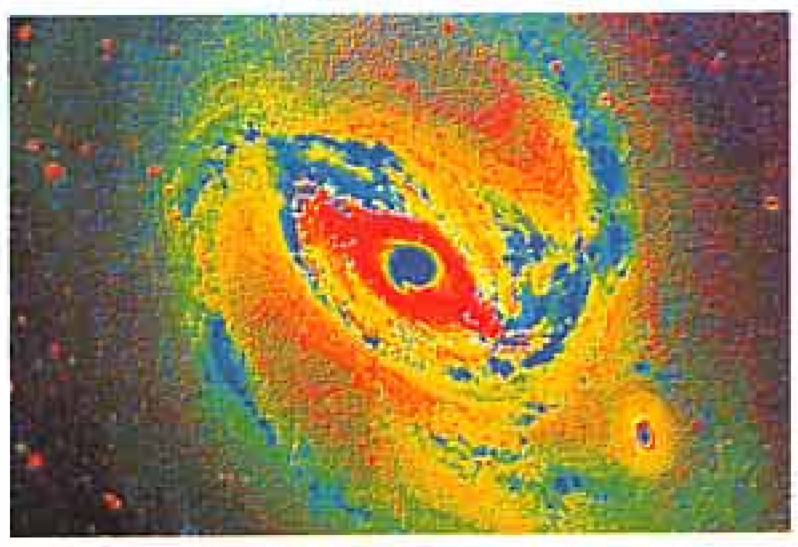
It's even more rare for a virus to be included in the duplication run of commercial software or (more often) a magazine cover disk. While ***Amiga Format***'s Coverdisks have *never* had a virus on them, other magazines have. (Oh no. That's tempting fate). This is a serious victory for the virus writers, as thousands of copies of the same virus are activated simultaneously.

Sometimes, viruses are copied and altered, so as to defeat virus checkers which then cannot recognise the new strain. It is theoretically quite possible for this to happen naturally or by accident. But the current growth of the number of Amiga viruses does point to the fact that the virus-warped programmers are still busy creating and adapting virus programs.

NATURAL EVOLUTION

Viruses on the Amiga do not cause the havoc and panic that they've done in the past. However, while old hands (who have probably suffered an SCA or Byte Bandit in their time) are safe, new users are often naive and their own worst enemies.

When your system suffers virus infestation, the natural reaction is panic, paranoia and fury. A cool head and a copy of *Virus Checker* will serve you a lot better, especially if you want to avoid re-infection. New bootblock viruses are getting pretty scarce these days, as all hunter-killer programs know when a bootblock is suspect. We can only hope that this does not mark the beginning of a new breed of file virus that cannot be detected, copy at every opportunity and wipe hard disks at the earliest opportunity.



Bootblock viruses are fairly rare now – let's hope something worse doesn't come along.

CD VIRUSES

Is it at all possible for a virus to exist on CDTV? The simple answer to this question is no (files cannot be copied on to CDs using existing Amiga CD hardware). However this does not mean viruses might not sometimes crop up on CDs, because they might accidentally have been left there at the production stage, but this is very unlikely.

FAX VIRUSES?

Rumours continue to circulate of a virus which spreads through fax machines. Although no one in the *Amiga Format* office has observed this weird phenomenon, reports of strange behaviour from fax machines which regularly transmit to one another have become more common in recent months. We'll keep you posted if it does turn out to be true.

THE TOP TEN ANTI-VIRUS TACTICS

1 Write protect all your floppy disks. Only take the write protect off if you need to save a file – and write protect the disk again when you have finished saving.

2 Check the write protect before you put a disk into a disk drive. This is the best anti-virus habit.

3 Do a hard reset in-between programs, that is turn the machine off and on. 30 seconds is enough for most machines, five minutes is necessary on an A500 Plus.

4 Go and get yourself a copy of *Virus Checker*, make sure it's the latest version. Run your entire collection of floppies (including your precious originals) through it. Don't erase anything until you are positive that it is a virus.

5 Get a system monitor. *Virus Checker* is a good monitor, but *Nuke!* is better if you are using floppies. Either leave it permanently on if you are a serious user, or run it occasionally to make sure your disks are not infected.

6 Avoid pirated software like the virus ridden, polluted rubbish that it is. It's also doing the industry no good at all.

7 Never ever be tempted to spread a virus, even to someone you don't like. The same virus may copy itself back to you, or you might get a much nastier virus in return.

8 Treat all new software as infected until you know it's clean from viruses – run it through a virus checker before you load it up. You can't be too sure!

9 Back up your boot blocks. Use *BootX* or *Virus Expert* to copy all the bootblocks of your game disks, so that, if a bootblock virus does strike, you can repair the damage.

10 If you still suffer virus damage, it's probably a new strain. Send a copy to Safe Hex International (0942 682205) clearly marking it as a probable new virus.



***BootX*, by Peter Steur is a little bit complicated for novices. You can find it on the Coverdisk!**



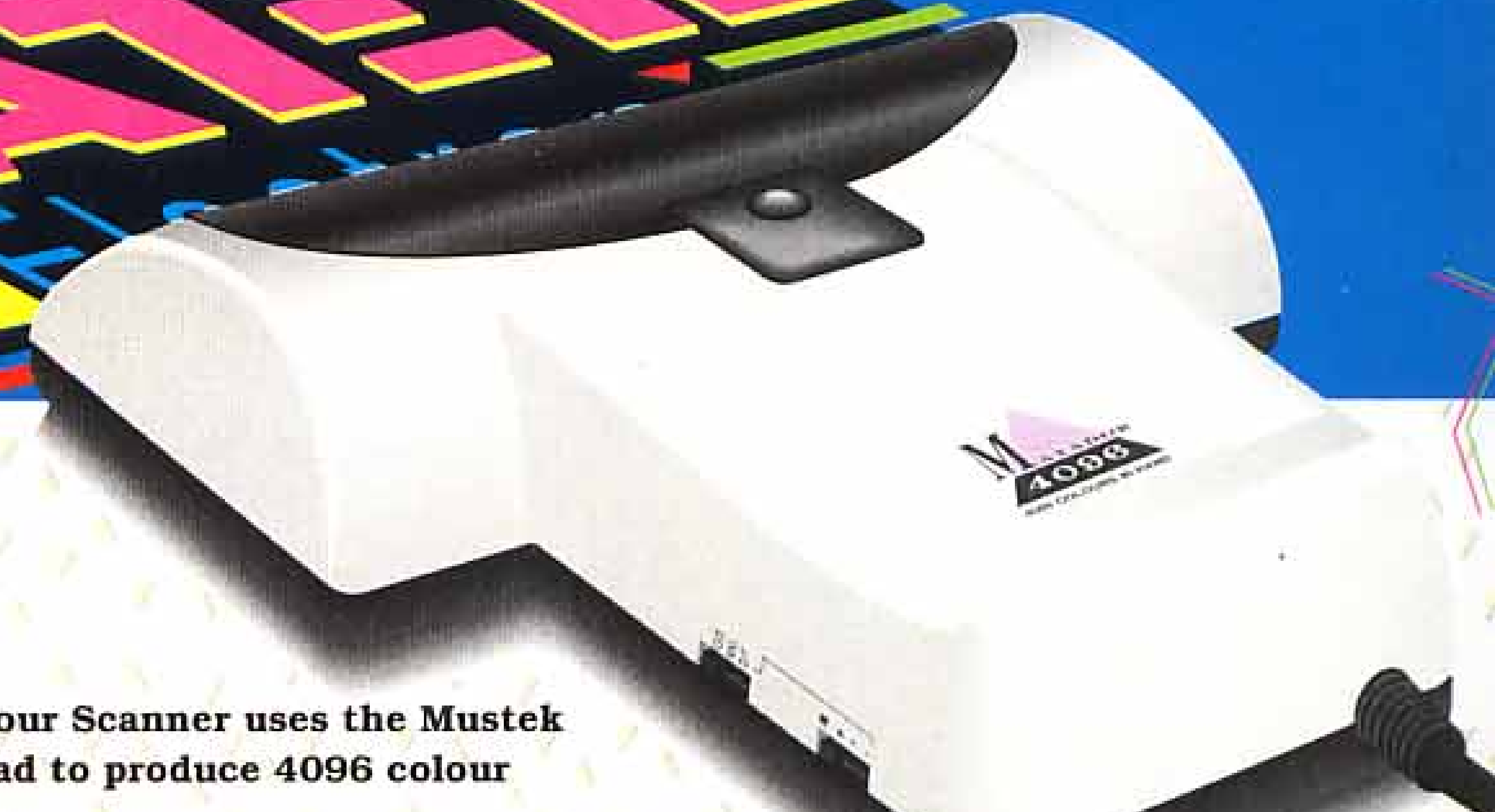
***VirusZ* is very good at hunting viruses which hide inside compressed *PowerPacker* files.**

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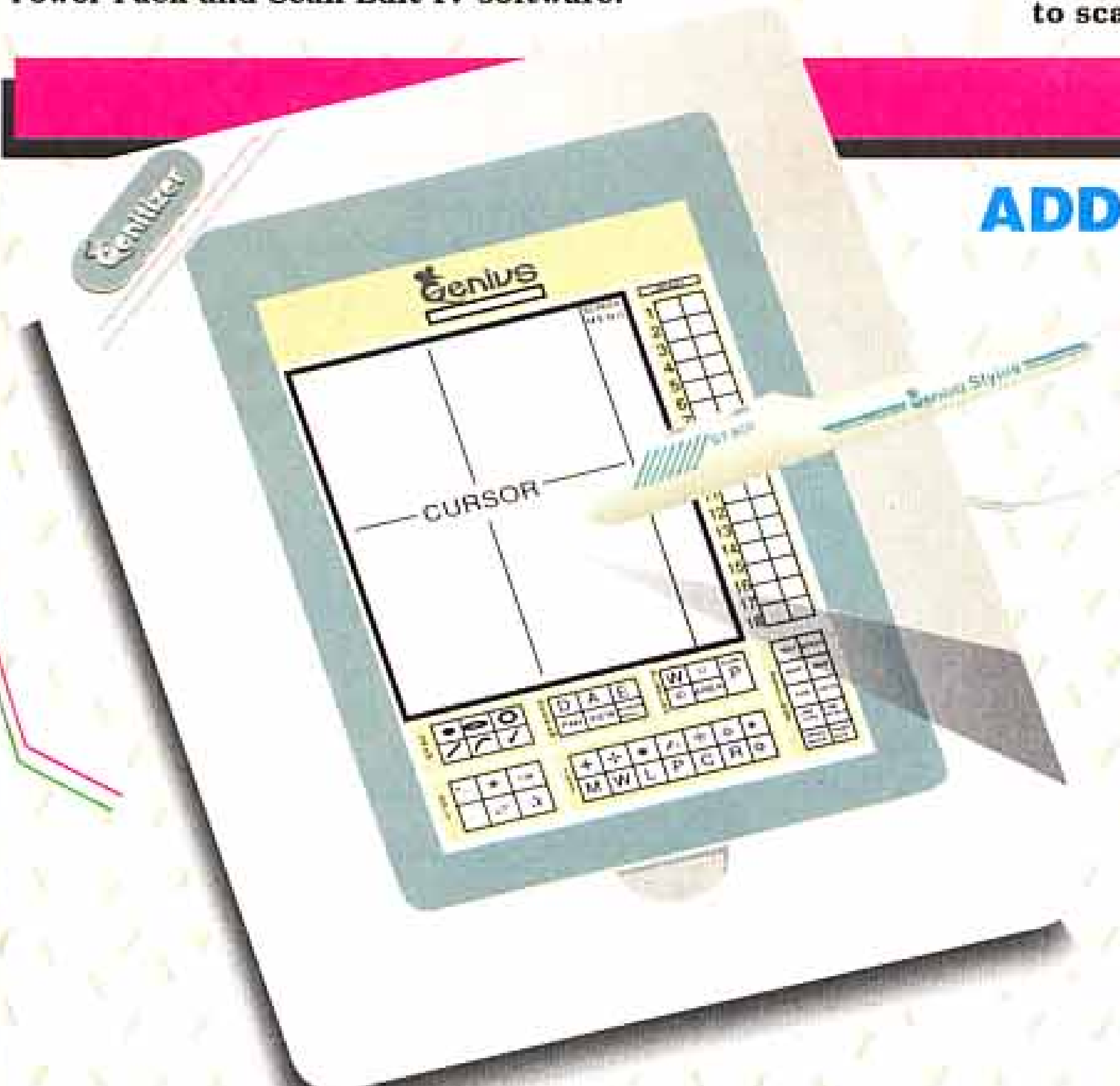
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Here's this month's succulent selection of new utilities, games and other software, all of which will cost you next to nothing. Your host, **Pat McDonald** brings you slap, bang and er, wallop up to date.

DONKEY KONG

GAME

CHOICE SOFTWARE GO62



The game that launched Nintendo into the public eye, cloned with subtle changes onto your machine.

Programming team Bignonia, long-time masters of bringing old C64 classics to life on the Amiga, have converted the game that introduced Mario to an unsuspecting world. All I can say of this is that it's got the average gameplay and lousy graphics of the original, plus quite good Amiga sound. It'll bring tears of nostalgia to the eyes of many people.

ACC 27

MAG

AMIGANUTS

Anyone for Assembler? The Amiga Coders' Club has been running for some time now, but in case there are still people hungry for some half-decent (and quite a lot of excellent) example source codes, this is the disk collection to go for.

Strangely enough, the menuing system is written in C. Each ACC disk is split into source code examples, documentation, letters and a smattering of more general issues to spice it up a bit. The source does everything from convert hex to ASCII, up to source for a *Defender*-type game. Sadly, it's still incomplete, but looking good.

Mark Meany and Dave Edwards are doing excellent things with the ACC disks and, if you want to see what you've missed in previous issues, this one has an index of the contents of all past disks. Oh yes, and there are a few new bits from a new contributor called Arcane Jill. The latter stuff includes details of some known bugs in *Devpac* 3.

WHITE KNIGHT

GAME

SOFTWARE EXPRESSIONS



Although graphically very limited, *White Night* has a lot of hidden design that makes it playable and almost fun.

Anyone still remember the *Shoot-Em-Up Construction Kit*? Widely hailed as being a tool for professional quality scrolling games, *SEUCK* has never been used to better effect. This game looks the same and plays much the same as other *SEUCK* games. The difference is in the design of the stages. Each stage has safe routes and dangerous routes to find, exploit and avoid. The enemy positions and the landscape are well spliced together, leading to some tricky manoeuvring and backtracking.

In many ways it's a lousy game (not many colours, small screen, bad collision detection – all the hallmarks of *SEUCK*), but is still the most fun-to-play *SEUCK* game I've seen. It won't engross you for long, but at least some talent has gone into it.

WIZARD WARS

GAME

NEBULA SOFTWARE

Sounds quite awful, but is really rather good. *Wizard Wars* pits you against up to four other players. The Amiga can control any of the players. Demonology is the name of the game – I've always believed in 'ologies, but summoning demons is not an academic subject I'd recommend.

Never mind the ethics, it's a challenging strategy game with just enough in the way of sound and graphics to get by. You have to beat the other guy, true, but



Trevor the demon has been blocked by a mountain range. Time to turn back and despoil somewhere else. *Wizard Wars* has many good aspects.

there are lots of forts, castles and cities to dominate with your demons too. There's also an elusive bug that sometimes crashes the game on WB2 systems.

Creating the demons is simplicity itself. Just click on arrows to tweak the strength, intelligence, move rate and manna (magic points) of the little blighters. These can only be taken as far as the Wizard's magic will

Continued on page 224

CLUMPY ICONS

DATA

17 BIT 2202

Hmm, a disk stuffed with icons, ready to use to tart up your disk collection. All the icons have been designed with Workbench 1.3 in mind and, while many of them look all right on a 2.04 machine, some look very odd with WB2.

The different categories of icon are Specific, Disks and Drawers, Sound and Vision (that sounds familiar), NewSystem (Standard Workbench utility icons that have a CBM logo when clicked on), General and 101 uses.

The clever bit about this disk is that the artist, Robert Corradi, makes one condition about using the icon: if you use one on a disk, you must also include a small advert from Robert which asks for help on two of his special projects.

The first of these is an interactive database of comic characters that have been used in films. The hope here is that this little gem will find its place in the Museum of Moving Images in London.

The second project is a short cyberpunk film, for which Robert wants some decent musicians and a coder to write some funky screen wipes for the titles. If you're interested in helping the fellow out, or you want to lay your hands on some free icons, get this disk and you never know where your work could end up.



A fistfull of icons for all your data and programs. *Clumpy Icons* provides a very wide selection.



Subtle screen changes can affect just how good or bad an icon looks. It's all a matter of individual taste really.

ACT OF WAR

GAME

17 BIT 2197

My word, this one shows promise. Heavily influenced by games like *Rebelstar* and, more recently, *Laser Squad* and *Space Crusade*, *Act of War* is a tactical battle game which abandons hexes and cardboard markers and gives you a map view instead. Each unit under your command can be turned, moved and fired.

There are three missions on each disk and there's not too much in the way of dull statistics. You can play two-player against a friend, or take on the computer – it doesn't play outstandingly, but it's competition of a sort. The aim is to tool up the units available and complete the mission, which usually consists of wiping out the opposition, but occasionally involves blowing up a strategic point.

There are three difficulty levels. Easy gives you the most cash and lets you see all the opposition facing you. Medium takes the cash down and introduces 'line of sight' rules – you have to be facing an opponent in order to see and shoot at it. The amount of cash available is very important. Some of the weaponry is very poky, causing large explosions that wipe out the enemy *en masse*. Other stuff is handy, but only at short range – things like shotguns and rifles. Overall there are more than 15 categories of weapon, with the cost of each proportional to its effectiveness.

After taking up the predetermined start positions, you begin edging forward and blasting. If you've never tried this sort of wargame before, all I can say is that it's very appealing to a wide variety of masculine gameplayers and obviously features loads of violence.

It's shareware, so registering gets you a version without the annoying 'pay the fee' messages and also gets you a mission editor with which you can set up your own battles. However, there are a number of bugs in the program that often cause it to abort back to Workbench: if the keyboard is used for a mouse operation, or vice versa.

Happily, if you pay £10 then Dave Smith (the author) will send you the original *Amos* source code. Somebody help him debug this – it would be a major shareware game if only it didn't bug out so often. Although it has so-so graphics, the sound, which is used with permission of Team 17, is very good – especially the sound of a magazine being slammed into a gun. This is my sort of game and I make no apologies for the fact it's buggy and a bit slow. A couple of updates and tweaks to the source and this has the makings of a classic shareware game. 'Scuse me, I'm off to cause some mayhem...



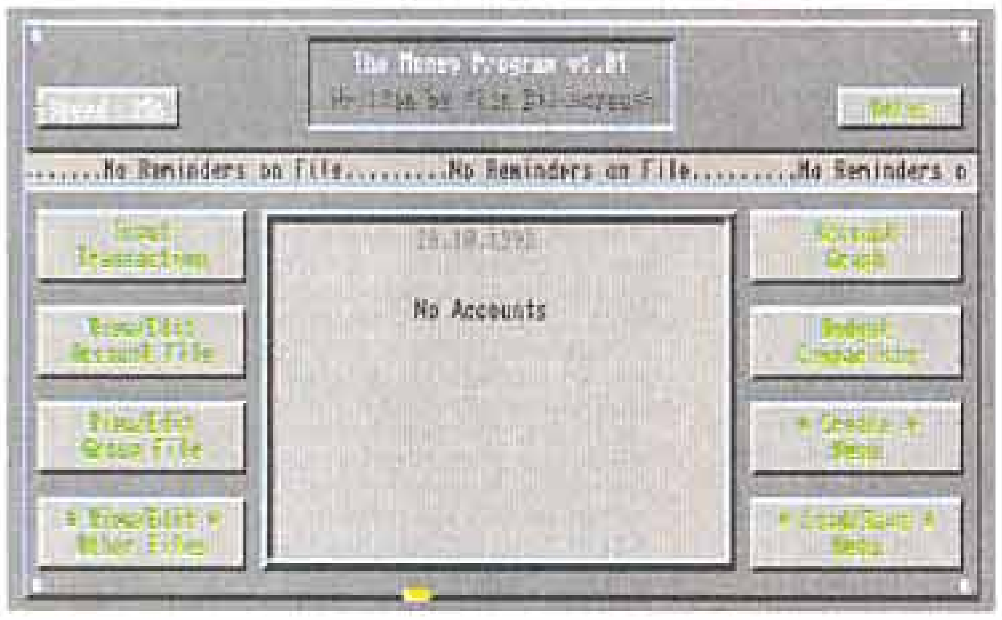
The human (bottom left) has the drop on two droids (one under the cursor). Fire the pulse rifle or toss a grenade?

allow. So you can either create lots of weak demons or a couple of real hellraisers. It requires Workbench and bit of fiddling to get it working on a 1.3 machine.

THE MONEY PROGRAM

TOOL

ANGLIA PD B344



No accounts, no cash flow, no reminders: I guess I'm skint again. Never mind, I accurately know how broke I am!

Home accounts anyone? This program has had a lot of work put into it to make it look and operate just right. *TMP* can keep track of up to 12 different accounts, recording the money transfers between them as your precious pennies go their separate ways.

The program is not unique by any means, but it has a good, simple layout that's very easy to pick up. An example file is included and, judging by the speed at which it loads, it's a pretty fast program for studying and managing your finances. The programmer (Alan Bilsborough) has done a good job.

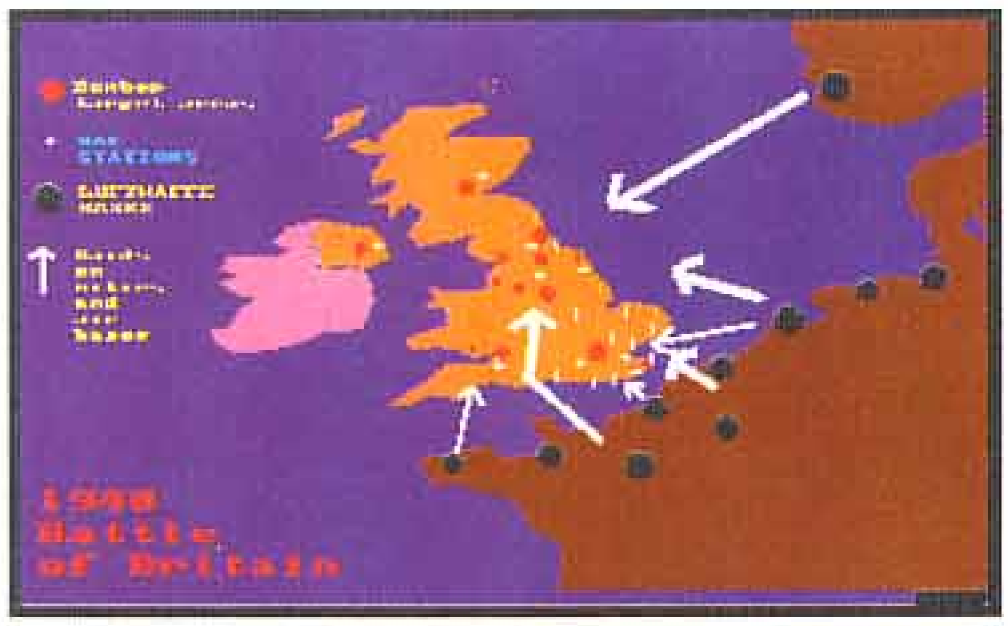
The secret is to set up expenditure accounts for things you buy often (groceries, bits for the car, whatever). Then see how you're buying a particular item and whether money can be saved by, for example, paying a bill by direct debit.

WWII HISTORY BOOK

EDUC

ASGARD SOFTWARE

In some ways this is similar to the Total Concepts educational series from CLR. It's a potted history of WWII, from the causes, through the major events and battles and up to the final conclusion. It covers some of the campaigns in fair detail, and has the occasional digitised or scanned picture to brighten things up a bit. The problem with this program is that it tries to fit five years of history on to a single disk. Needless to say there's an awful lot of detail missing, but then a lot of people aren't really interested in the full story and just want the highlights.



***The WWII History Book* offers plenty of material like this. Although lacking in detail, it shows just what is possible.**

The *History Book* is quite well designed, and has been set up using Gold Disk's *Hyperbook*. It's not perfect by any means (some of the material is very good, most is patchy) and you'll find far more to read on a disk magazine – but it's a step towards better education through computers. Give it a try – it might just inspire you to do your own Hyperbook presentations.

C MANUAL

TOOL

SOFTWARE EXPRESSIONS

Just in case you haven't heard about the C Manual, I thought I'd better mention it. The C manual has been recently updated to 12 floppy disks crammed with tutorials and example programs, all in C. Although the C assumed is Lattice, you can use other, cheaper Cs (like the shareware North C or PDC).

Anders Bjerin, founder of the Worldwide Amiga C Club and author of the original manual, has had quite a lot of new material, so much so that the original three-disk set is now a 12-disk set.

I'd better not forget the most important thing. If you are having difficulty tracking this one down, it's part of the Fred Fish collection, disks 691-695. So if you know a supplier of Fish disks then you can save yourself a few bob on duplicating costs – the five disks automatically de-archive on to 12. Novice users would probably be much better off getting the set already de-crunched because some libraries re-crunch disks like this, making it rather tricky to get at the contents.

TOP 10 UPDATES OF THE MONTH

Every month we print a chart of the top 10 games and utilities from a popular PD library. This month it's the turn of...

SOFTWARE EXPRESSIONS

ALL PLUS COMPATIBLE

1.	PC Task	U152
2.	Anti Virus	6.04 U155
3.	AMOS cricket	G170
4.	Imploder version	4 U151
5.	DeluxePaint Tutor	U160
6.	Assassins Game Compilation 3	G178
7.	ElectricCAD Demo	U161
8.	Pools Tools	U173
9.	SupaFonts	U142
10.	Tank Attack	G180

WHERE TO GET THE DISKS IN THIS ISSUE

17 Bit: 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire WF1 1DH. 0924 366982

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PD Demo Zone



Andy 'Nutts' Nuttall has spent an agonising month viewing the onslaught of animations and demos that have arrived from libraries all over the country. We have managed to drag him away from his Amiga monitor, though, to come and write a few words on what's impressed and distressed his critical eye so far...

DOLLY MIXTURES PACK 16

CYNOSTIC PD, DISK D0414 — DEMO



One of the demo pictures from the *Dolly Mixtures Pack.* There's a message in there somewhere, I'm sure...

This weird and sometimes wonderful collection of demos was put together by Anarchy, a team of coders which is well respected in its field. No actual Anarchy code here, though, apart from the menu which displays a picture of Bertie Bassett playing a horrible rendition of the *Rainbow* theme tune (a joke, methinks...).

Most of the demos are advertisements for various bulletin boards, but the first, *Hypnautic Hammer* by Extensors, is a great exception. After a silent introduction to the demo, you are invited to 'Enjoy the mindtrip'. Not being a fan of techno music and the general rave scene, I wasn't really looking forward to that prospect. How wrong could I be...

The demo consists of a powerful piece of hardcore music which uses some high quality samples. Along with the music comes a long loop of graphics which are tightly synchronised to the music. The visuals all involve a stroboscopic element, which makes it ideal for a party in a dark room (especially with the volume turned right up), but seriously mind-altering if you sit glued to your monitor screen.

The most impressive part of the demo, though, is a short animation which shows a man's head first looking left, then right, with some very fast-colour cycling providing a strobe effect. Because it's all in time with the music, it's quite gob-smacking.

On a more serious note, if you suffer from any form of epilepsy, steer well clear.

LEMMIN'S REVENGE

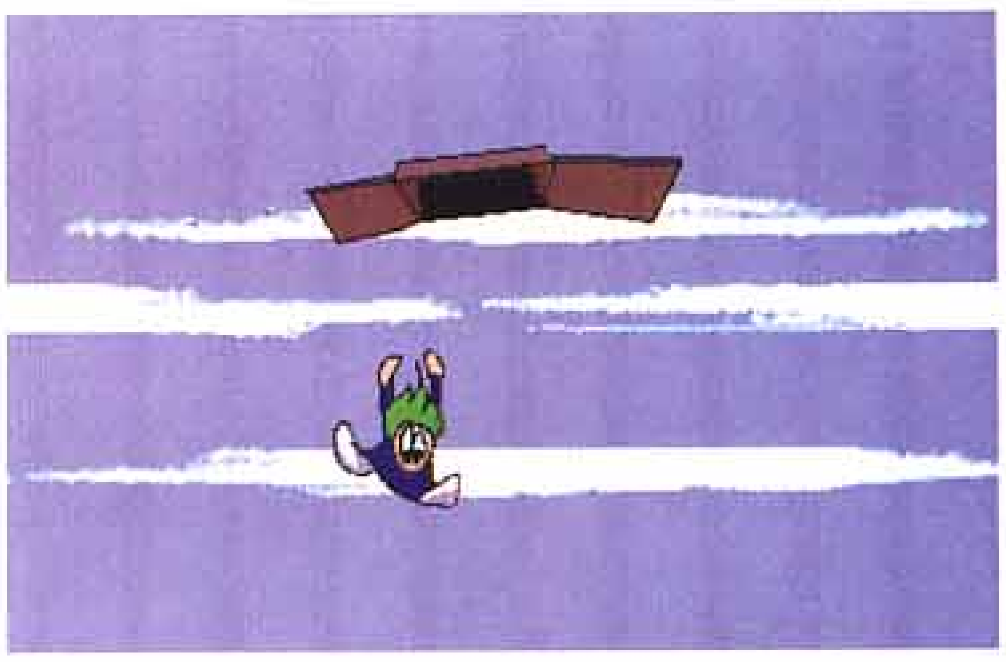
VIRUS FREE PD, DISKS 2935 & 2936 — ANIM

I'm not too sure about this one. I was very impressed with Roddy's efforts last month, with *Duncan the Dung Beetle* and the *Kingfisher* animation. This time he's taken a popular animation, *Lemming's Revenge* by Eric Schwartz, and messed around with it to produce 'a tribute' to the other animator. Hmm.

It's only a personal opinion, but I reckon that it's OK to make a tribute when you produce your own work in somebody else's style, but when you actually pull bits of other people's code out of their animations and use it in your own, that's another thing entirely.

That's not to say that all of it's copied – there are some original bits; but the difference in quality between the two animators' styles is immediately apparent. Schwartz's lemmings are cute, simplistic and full of life, whereas McMillan's are, like Duncan the Beetle, a little too detailed and overdrawn.

Sorry Roddy, but you can't expect to become a world-renowned animator overnight. It takes time, so stick to your original ideas for a while before you start using other people's styles. Concentrate on making them as fluid and cute as possible, be patient, and soon you will be recognised as an original animator. This kind of stuff isn't going to help you at all.



Ah yes, the poor lemming falling from another dimension. Ring any bells? Yes, I thought it might...



Like the previous screen, these graphics were 'borrowed' from a Schwartz demo. Even kept the VR chair, I notice.

SPEEDLIMIT

17 BIT, DISK 2217 A-C — ANIM

The last demo here is another by up-and-coming animator Craig Collins, who produced the excellent *Dolphin Dreams* ray-traced animation featured in last month's issue.

Here, Craig has used *ShowANIM* to produce a 2Mb animation which shows *Tron*-style motorbikes racing around the streets of a futuristic city. The bikes are taking part in an illegal race, so the police have devised a special type of bike to try and catch them. Their bikes morph into any shape, in true *Terminator 2* style.

To trap the racers, one of the police bikes morphs into the shape of a brick wall in the middle of the freeway. The racing bikes crash headfirst into it, then the police bike returns to its original shape before speeding away. A strange idea, but quite an original one.

The animation is nicely realised, with an excellent use of graphics, but it would definitely benefit from the use of a storyboard. I know it's difficult to cram good animation and a good story into 2Mb of memory, but the ideas are just a bit too vague for comfort. Some sound effects would also be a good idea, just to add that little extra atmosphere.

That's not intended as a drastic criticism, though, because the animation is very impressive overall. Craig Collins is definitely a name to watch out for in the future.



Larger-than-life signs tell the riders just what the speed limit is, and exactly what'll happen if they break it...



Tron-style bikes fling their way around the highways of the future. Can't think where the rider sits, though.



Isn't it always the case that when there's a police chase in movies, there's never any other traffic on the road...

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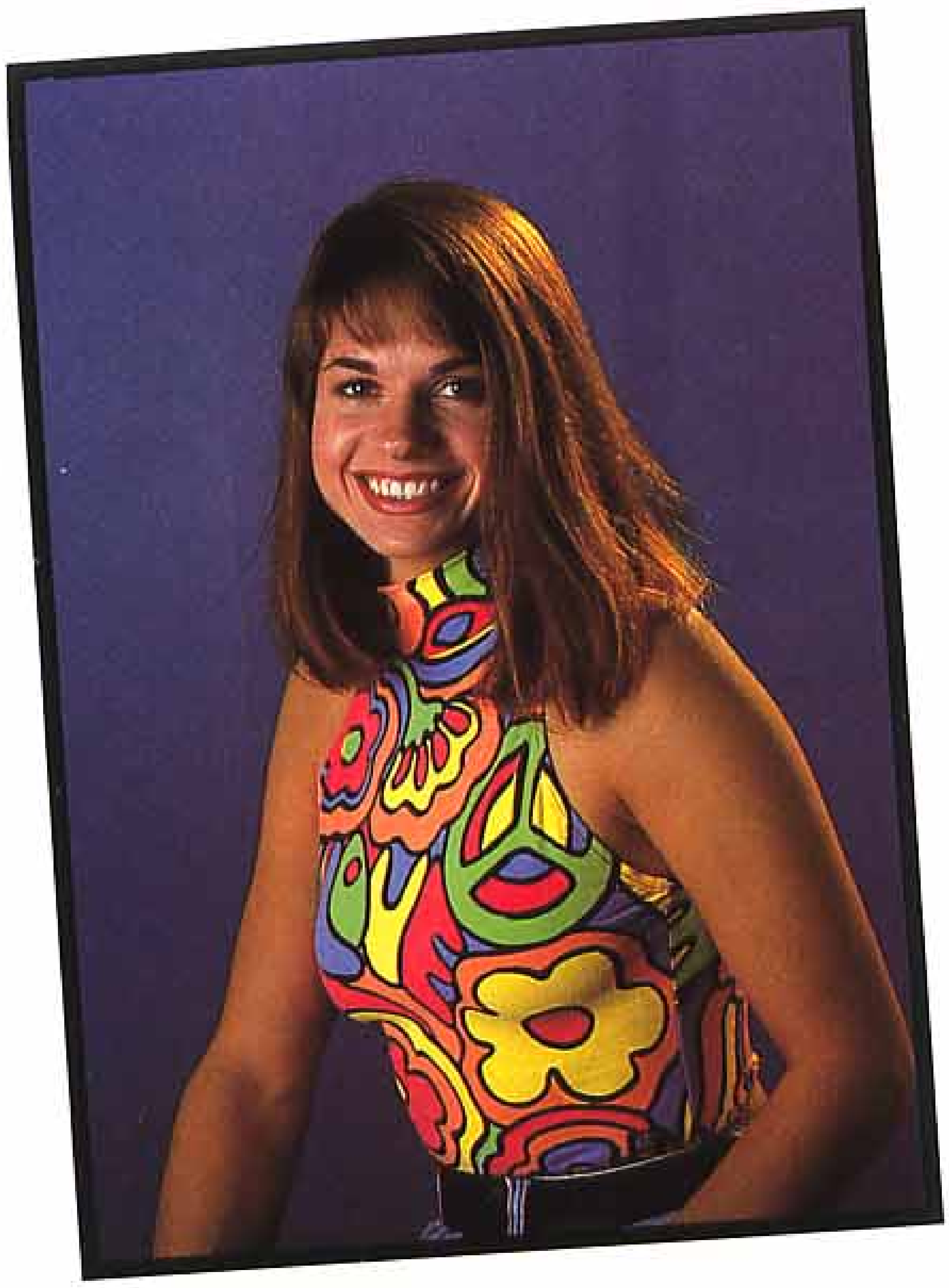
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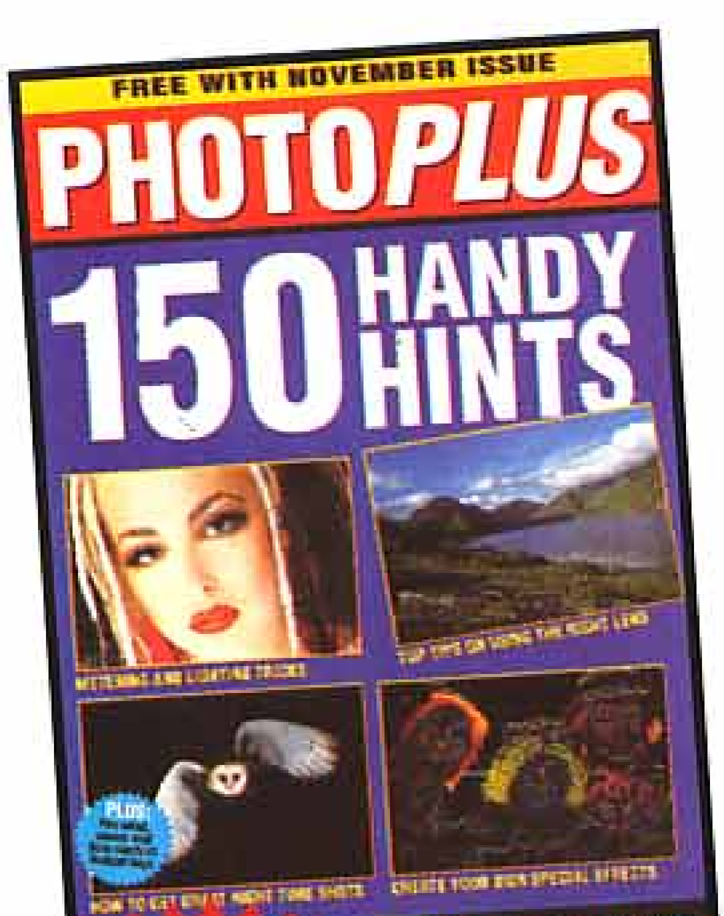


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FORGOTTEN

DEMO

17 BIT, DISK 2215

Slideshows come and slideshows go, and generally once you have seen one you've seen 'em all. This particular offering from Mirage, however, is one of the most impressive shows that I've ever seen. Comprising a mixture of hand-drawn and scanned artwork, the whole package just oozes quality, from the use of colour down to the slick way it's presented.

The first screen to appear is a menu in the form of an open book, which shows a glimpse of each picture on the right-hand page with the title on the left. Three of the pictures are displayed at any one time, and they may be scrolled up or down using the mouse pointer.

The tasters for each picture immediately hit you, and entice you to load the full screen in or use the option to view them all. When you choose an option, the desired picture is displayed via one of a number of 'wipes', that is to say that different pictures appear in different ways.

There are eight pictures crammed on to the disk, and each displays a different style of artwork. One of them, *Abraxas – The Guardian of the Universe,* looks like an advert for a feature film. It depicts two human faces: one is screwed up in terror, the other is a type of steel-jawed He-man, who could have just stepped off the cover of Stephen King's book *The Gunslinger.*

Then there's *Bitch of the Beasts,* which is another fantasy drawing. This shows a naked woman's reflection in an oval mirror with a very surrealistic frame. It's about this time when you realise that the artist, Danny, is very good at drawing human features, so faces crop up quite often. Part of the mirror joins with the woman's leg, and her cloak flows through to the front of the mirror, making it look as though she's walking through the mirror from the other side...

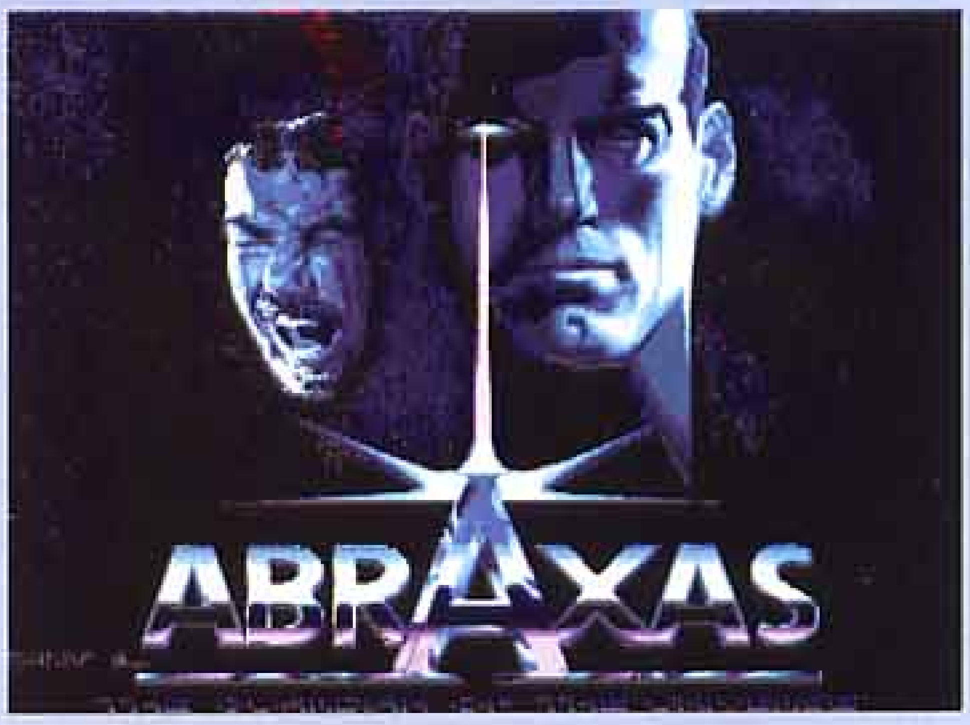


The best of a great bunch of pics, *Kingdom of the Knights* uses colour to a very dramatic effect.

Fourth is *The Flute and the Thief,* which has the god Pan playing his pipes while – yes, you guessed it – looking at a naked young lady kneeling on her bed. Mind you, he is the god of Lust and all things sordid, so what can you expect?

The last piccy I'm going to describe is the one which I consider to be the best. Kingdom of the Knights is a super-bitmapped image, which means that it takes up an area about three times larger than the normal screen. The scene shows two knights in full battle dress posing in front of a beautifully drawn Pegasus, with two fire-breathing dragons rising out of the water on either side.

This is a superbly drawn, awe-inspiring demo (with some epic music to boot) which should be begged, stolen or borrowed at all costs. You could even get it from a PD library, if you're lucky....



Abraxas, the Guardian of the Universe, is portrayed as a steel-jawed hero in a similar style to the Gunslinger.



OK, so it's not a brilliant likeness, but this is only the title page – the rest of the demo is more cartoon-like.

BOND'S LAST STAND

ANIM

17 BIT, DISK 2211

This is an unusual type of animation, which begins seriously but quickly moves into the realm of the hilarious. Starting with a picture of James Bond in his 'ladies man'-type pose, it moves on to the usual Bond film beginning, with the action viewed through the barrel of a gun.

Bond walks in from the right, holding his gun, and when he reaches the centre, he turns and shoots. Normally at this point the screen turns red to signify that the person has been shot, but in this case – nothing... Bond misses with his first shot, and his second. After taking a quick look around, he lets off another few rounds, and then it's our man's turn to shoot. Fortunately his aim is slightly more accurate, and he manages to blow off one of Bond's arms off. The second shot rings out, and then bang goes his other arm. This is where all my memories come flooding back of the *Monty Python and the Holy Grail* film with The Black Knight leaping up and down, completely armless (sic), and threatening to bite King Arthur to death! Ah, great times.

Anyway, back to the story. The final shot takes out Bond himself, and reduces him to a pile of rubble on the floor – from which comes a quivering white flag.

Great graphics, well thought-out storyline, and good use of sound samples. Grove, the writer, is on 'Q' for a sure-fire winner with this one.

WILDFIRE

ANIM

CYNOSTIC PD, DISK D0379

Another megademo which is similar in style to the one by Extensors featured earlier. This is by Wildfire, and features a powerful rave-style soundtrack which is backed up by some flash mind-bending graphics. The graphics are all synchronised to the music, but when they're not moving they look a little dull, so we haven't included a screen shot here.

This demo comes in three stages: an introduction to the coders with some iconic pictures of them – routine stuff; followed by the main bit of music which techno-freaks will love; and lastly the end credits accompanied by some peaceful music to finish off on a temperate note. Not exactly deep and meaningful, but a well-presented demo which makes good use of samples.

TOP TEN DEMOS OF THE MONTH

Just so that you know what's in and what's not we ask a Public Domain library to tell us the numerical order of the flavours of the month...

CYNOSTIC PD

1.	Human Target	D0163
2.	Hardwired	D0159
3.	Wildfire	D0379
4.	Dolly Pack 16	D0414
5.	AM/FM 8	D0018
6.	Stolen Data 9	D0553
7.	The Final Frontier 3	D0003
8.	Mangad	D0407
9.	Ray of Hope 2	D0533
10.	Point Blank	D0512

WHERE TO GET THE DISKS IN THIS ISSUE

CYNOSTIC PD: 85 Wyken Croft, Coventry, CV2 3AD. 0203 613817

17 BIT: 2-8 Market Street, Wakefield, West Yorkshire WF1 1DH. 0924 366982

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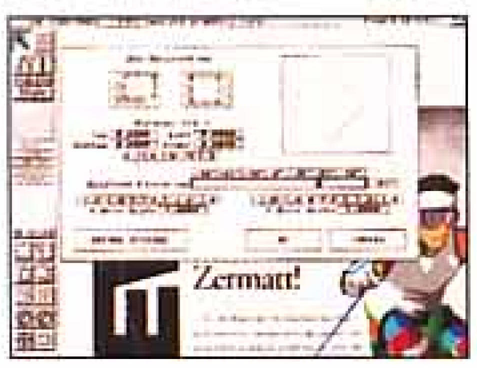
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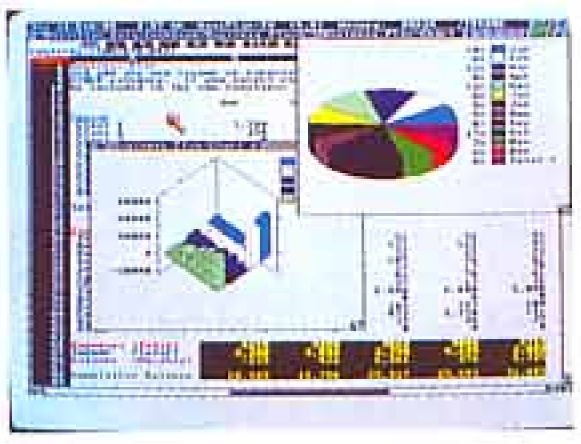
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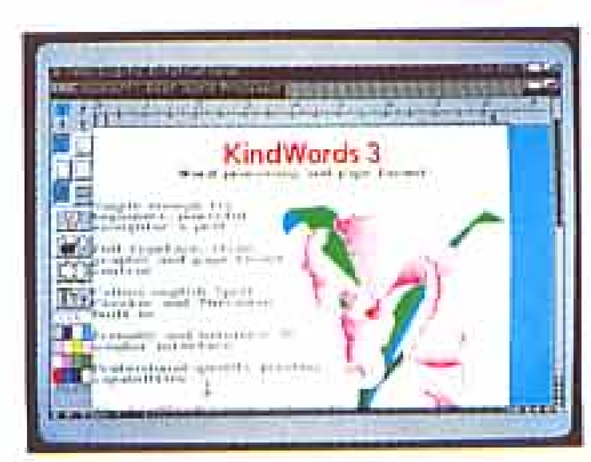
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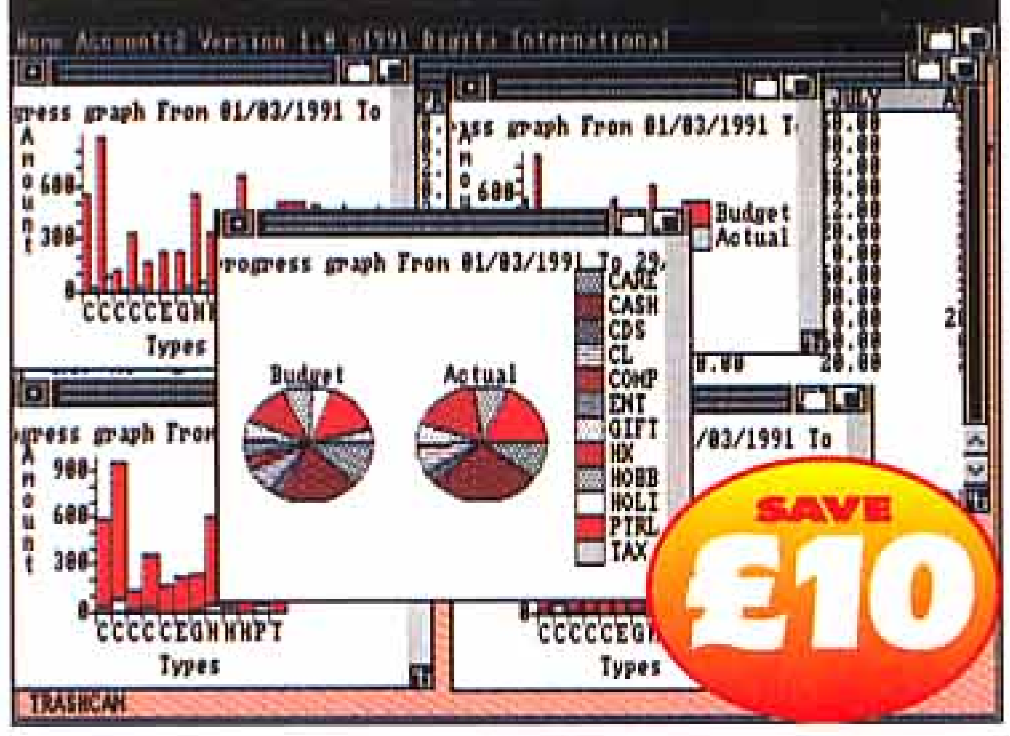
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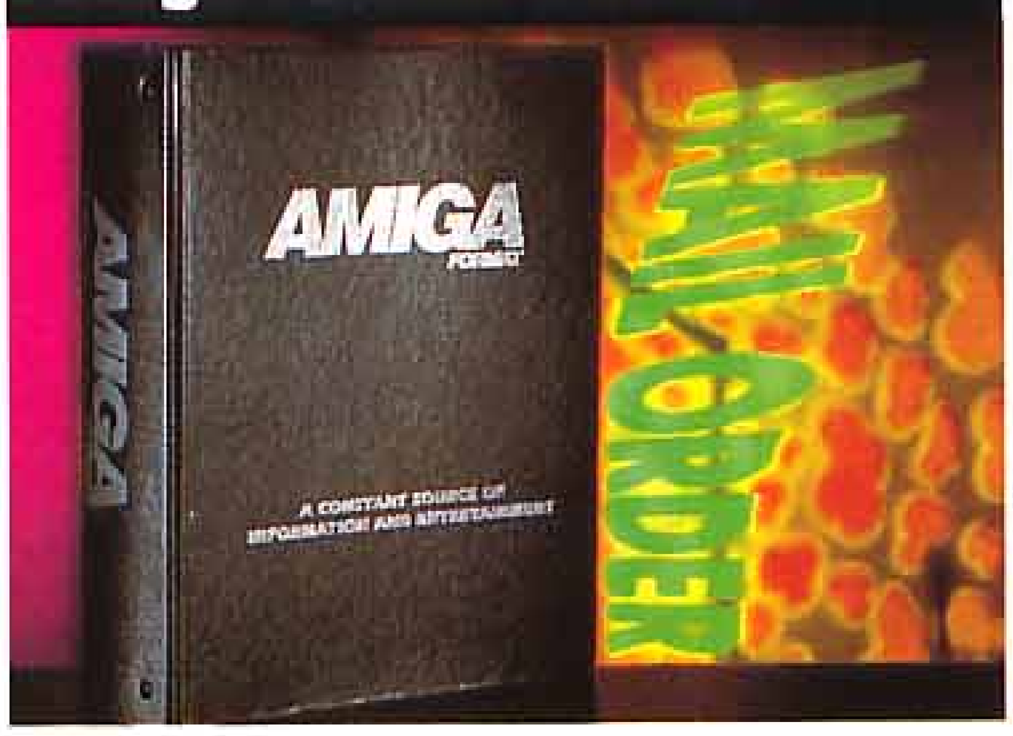
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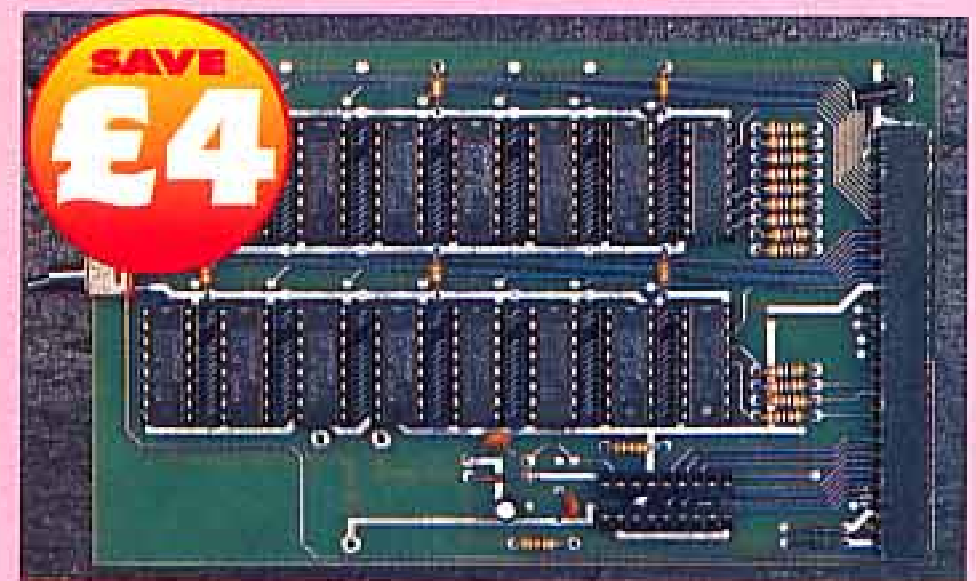


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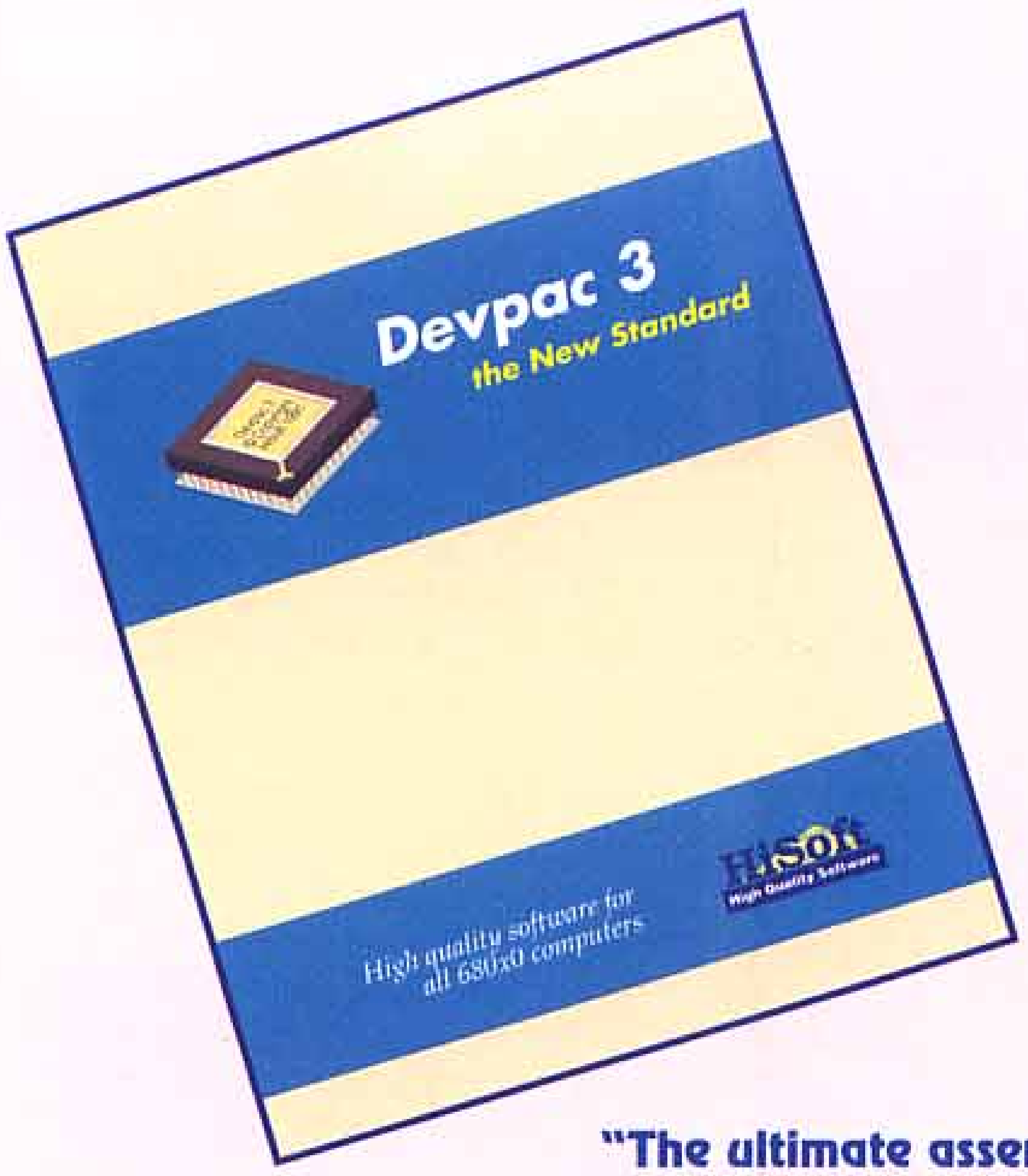
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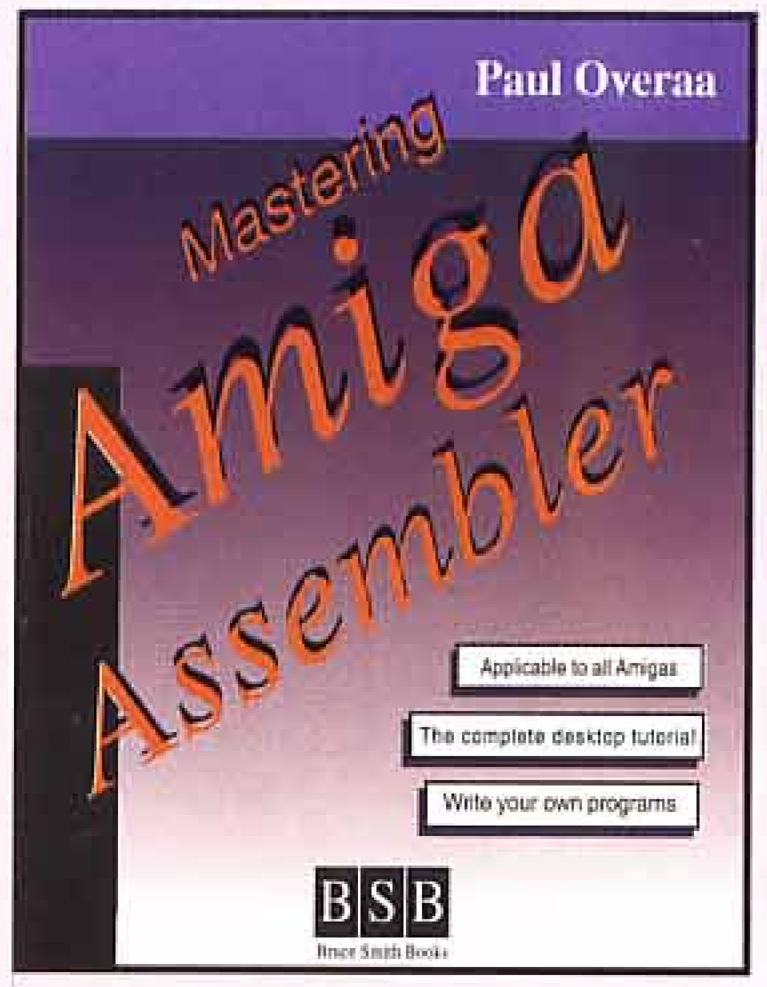
The news of the month is the release of the long-awaited SAS/C 6 development system, for which we are the official UK representatives - more details are given below. If you obtained Devpac 2 on the cover disk of the October issue of Amiga Format, you will be pleased to know that you can still buy the complete system, with manual, for only £24.95 which includes an order form to upgrade to Devpac Version 3. In addition we have the excellent *Mastering Amiga Assembler* book in stock, free (honestly!) when you buy Devpac 3 using the coupon in this ad.

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Amiga Format Gold 4/92

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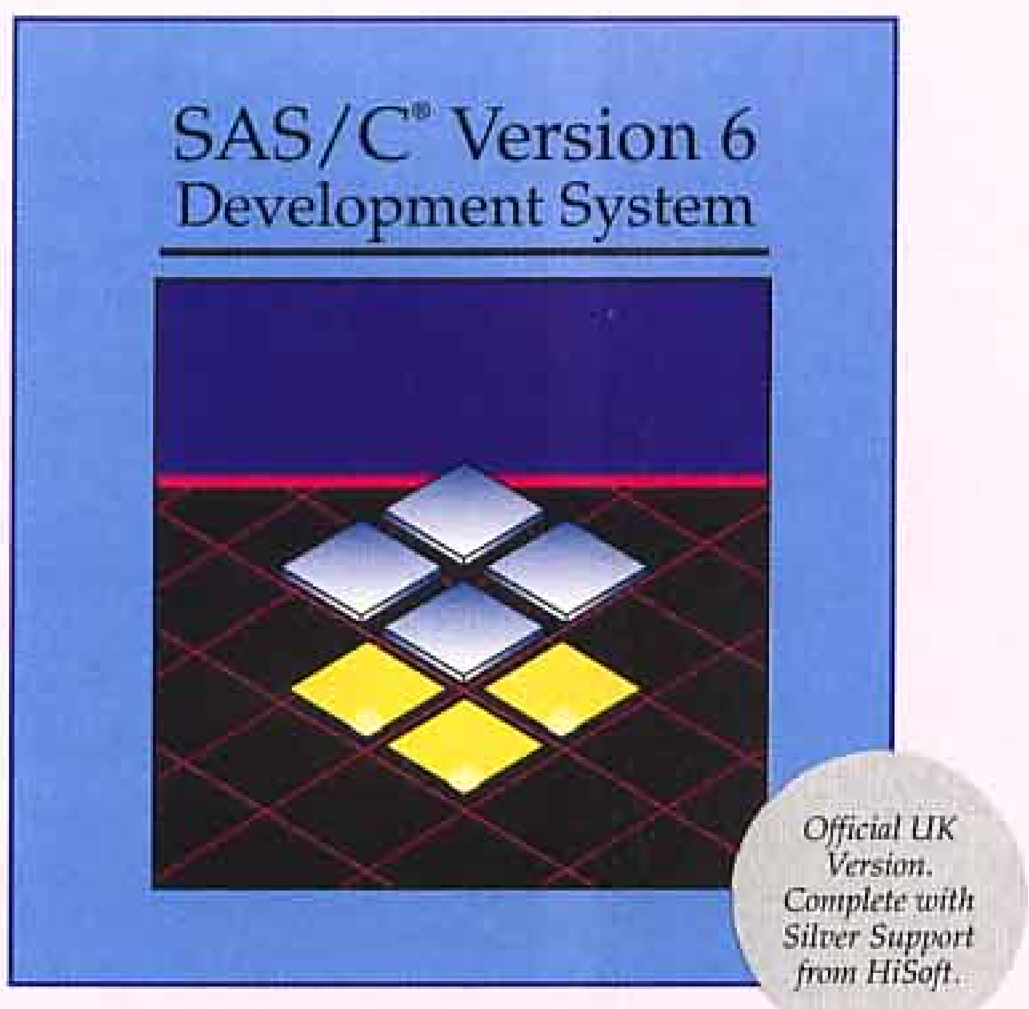
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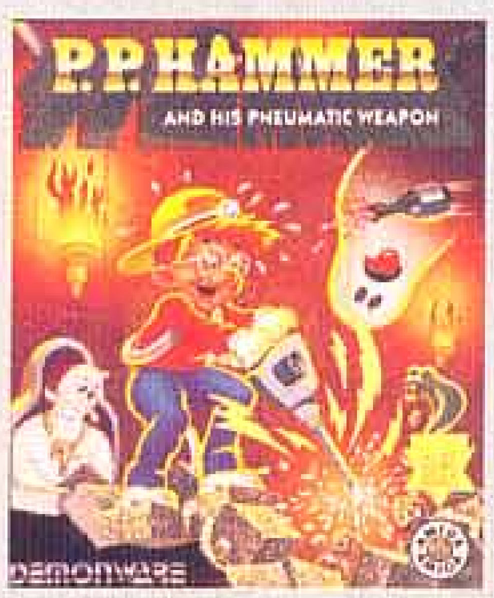
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Workbench

Want some detailed answers to your Amiga questions? This the place to look, **Pat McDonald** is the person to ask.

SEARCH FOR THE WORD

FROM: JONATHAN WILSON, LAUGHGILLY
Where, apart from Special Reserve, can I get text adventures? I noticed that none were mentioned in the *Amiga Format Complete Software Guide*. Which ones do you think are best on the Amiga?



Without doubt, the best that you can get is the *Complete Infocom Collection*. Reviewed last issue (Page 112), you get 20 huge adventures for about £40. You can get it from the suppliers Profile (0926 815855).

Sorry about the lack of Infocom - it wasn't out in time for publication in this...

Also, as I am using a CTM644 with my Amiga, where can I buy a stereo amplifier with a couple of little personal speakers?

Lots of places – Evesham Micros being one, they do a fairly good deal but it's well worth shopping around for this sort of gear.

MULTI QUEST

FROM: RICHARD YOUNG, INTAKE
I am having various problems with my Amiga. My set up consists of a 1.3 A500, a Zydec 0.5Mb expansion, Roctec external floppy drive and a Star LC200 printer.

1) Recently a lot of games have been crashing with Guru Meditation (software failure) number 00000003. What does this mean?

Right, when you get a Guru Meditation (renamed a software failure on Workbench 2 and up) then a program has overstepped the mark and tried to do something with the machine that it can't do. The one you are asking about means 'out of memory', but it can also mean that the program is trying to access memory that doesn't exist on your machine. It could be that one or more of the RAM chips on your board is faulty, or the trapdoor expansion connector where you plug it in has gone faulty.

2) My internal disk drive is going funny. Quite often, when I put a disk in it says 'Error validating disk' or 'Not a DOS disk' when the disk is fine. If I click on Retry, it keeps telling me to replace the disk in Drive 0 when I haven't even taken it out! Two or three times the drive has sat clicking as if it is empty instead of loading. Do I need a new drive? How much and who from?

Sounds more like a virus to me. The cheapest new internal drive I have seen is from Dart Computer Services (0533 470059) and it costs a little under £40.

3) *Leisure Suit Larry 3* keeps crashing, with an out of handles error. Do I need more memory? If so I was considering Evesham Micro's Megaboard. I read in Issue 39 of the magazine that it is incompatible with certain kinds of memory board. Would it work with my Zydec?

Like I said, your memory expansion may not be giving as much extra memory as it could. As for compatibility with the Megaboard – look at the RAM chips on the Zydec expansion. Their should be a long serial number, then a dash (-) followed by either 15, 12, 10 or 80. 15 means 150 nanoseconds access (how fast the chip works) and this is too slow. 12 is short for 120 nanoseconds access, which is borderline. 10 means 100 nanoseconds, and 80 means 80 nanoseconds. With the latter two types, the Megaboard should work fine.

4) I am having trouble following the Bullfrog's tutorial. When I look at `draw_all` in the file `draw.s`, and change the code as instructed, *Devpac* gives me six errors when I try to assemble it. If I run it afterwards the assembler crashes with Guru Meditation 00000003 00C05128. Help!

Loads of people fell into this trap, and I'm really sorry we didn't make things clear. The first thing to do with the *Devpac* disk is back it up, as per the instructions on the Coverdisk pages. Use the copy for all your work, and for the subsequent parts of the feature.

The bit about assembling the changes is not too difficult to understand. After you have changed one of the *Devpac* files (`Draw.s` or `Move.s`) you have to save it back to the disk. To assemble the demo, you have to assemble it all.

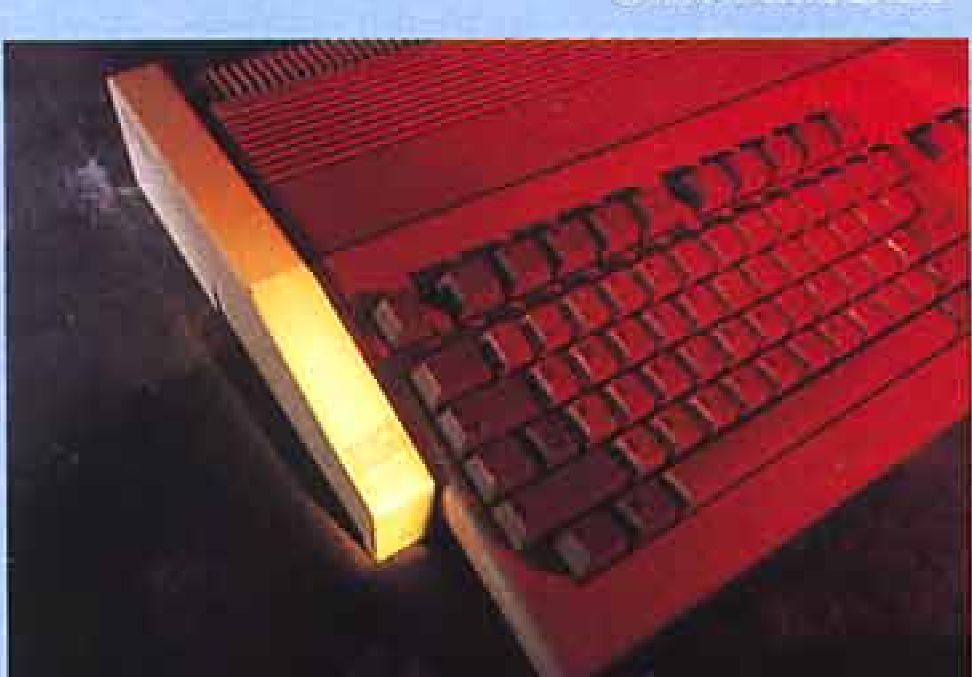
That is, you load `demo.s`, and assemble that. `demo.s` contains a list of all the files that make up the whole demo. Assembling the files in isolation doesn't work, because they refer to parts in the other programs. Without an `include` statement (which is all that `demo.s` consists of) then *Devpac* can't find the other bits, and so reports errors.

GOOD IDEA

FROM: J SUMMERHILL, BRISTOL
I would find it very useful, and I'm sure a lot of other people would as well, if you could run a series of short articles on hard drives. No, I don't mean reviews - I mean setting them up, tricks and tips, and things to avoid. My GVP manual skips over

THE MASKED EXPANSION

FROM: HAROLD WAPPLINGTON, CHESTERFIELD



The SupraRAM 500R, one of the few A500 expansions that the through-port actually works on.

In the September issue, in the Techno Babble glossary bit, you stated that the Zorro expansion connector for the A500, A500 Plus and A1000 is the original Zorro 1. I have an A500 with a SupraRAM 500RX which contains 4Mb of memory. I have used the SysInfo utility and it told me that the RAM expansion is a Zorro II type

I've had the expansion for about a month now, and everything works absolutely fine with it – the only real exception being the word processing application *Pen Pal 1.2*. It loads so far, then I get a Guru Meditation. What I want to know is, are the Zorro I and II compatible?

Ah. I'm afraid this is a really, really complicated area. Zorro I and II are not in fact compatible, but before you get worried, here's the low down. The connector on the A1000 and A500 types are nearly identical but not quite – one clock signal is missing from the A1000, but it's not usually used anyway. Also, on the A500 the connectors are on the left-hand side of the machine, whereas on the A1000 it's on the right-hand side and it is therefore upside down.

Now, the connectors on an A2000 are identical to those on an A500, except that they have the opposite sex. An A2000 card looks very much like the edge connector that is on an A500, and an A500 peripheral has the same slot on it as an A2000 edge connector; yes they are all very similar.

Are you at all confused yet? OK, the magical system whereby you can plug in an A2000 card and it is automatically set up and used by the system is called AutoConfig. A cut down version is also available on the A500 – but some of the circuitry is missing, because you're only supposed to have one thing plugged into the side of an A500.

The SupraRAM has a through port. To make this work properly and enable other expansions talk to the Amiga, some of the AutoConfig logic has been put back in – incidentally, so does the Cortex memory expansion. A lot of other expansions don't. Anyway, that's why that particular expansion looks like the full AutoConfig Zorro II slot as found on an A2000.

And can I get *Pen Pal* to use the extra memory?

The only way to do this is to get an upgrade from the software house concerned. Sorry I can't help.

Finally, is it all right to alter the RAM jumper settings to 1 or 2Mb without taking any chips out?

Fine. No problem. Do it now.

this very lightly after telling me about 'prepping' and 'formatting'. Oh yes, and do you know of a dedicated driver for my Citizen 240c? I've got the Citizen Print Manager but I am soldiering on with the 224/24e/24x driver.

Hmm, I reckon about half a page of Workbench entirely devoted to hard drive maintenance would probably be a good idea for a lot of readers, I'll try and fit it in soon, possibly next issue. As for a driver, I believe that Citizen will be upgrading the Citizen Print Manager in the near future, but the new drivers are not available at the time of writing.



It's about time we had some hard drive specific tips to help new owners of GVPs and similar hard drives.

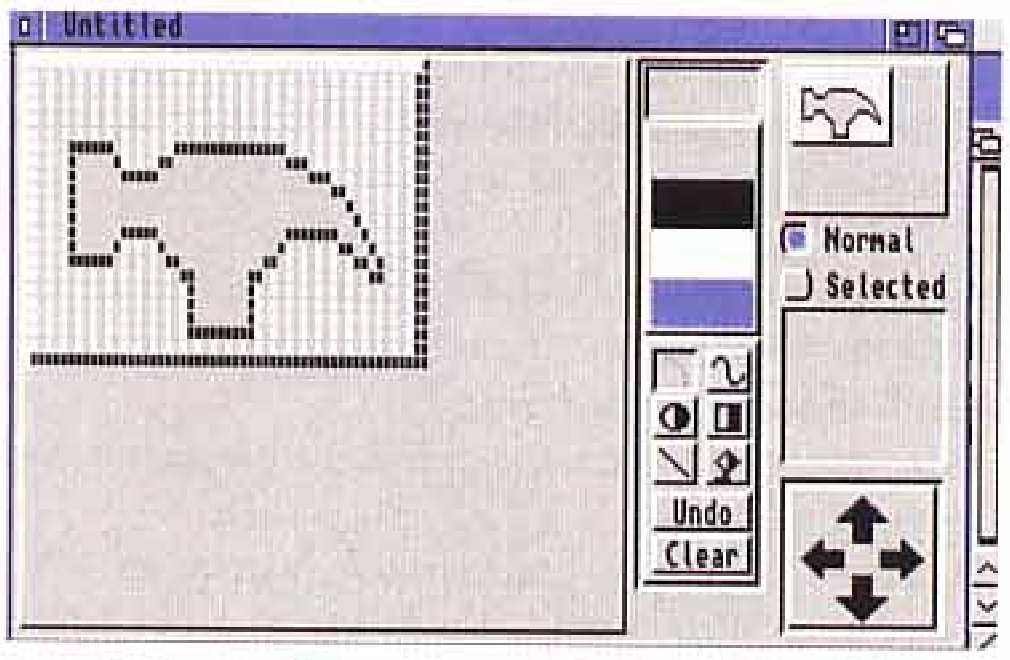
PRINT TO ICON

FROM: CHRISTOPHER KNEE, HULL

Here's an excellent tip for printing documents, or any text file, from Workbench. Have you ever printed a file on a Mac? All you have to do is drag the file's icon to the printer icon on the desktop and the file gets printed. I know that you can do this on the Amiga by extended selection and the Printfile tool, but it's such a pain to do. This is really only suited to Workbench 2, but 1.3 owners might be able to add their own custom bits to make it work on their machine.

1) Design your printer icon. Save the completed image somewhere on your Workbench boot disk or hard disk, but don't end it in `.info` or it will pop up somewhere you don't want it to. In this example, the icon is supposed to live in the root directory and be called `PrintSpooler.icon`.

2) Add a few lines to your startup-sequence. *MEmacs* is quite good at this, although you could use the *Ed* program at a pinch. Consult the manual if you're not sure how to use these, and do it on a copy of the Workbench disk, not the original. Insert these lines before the `LoadWb` command:



***IconEdit*, the supplied program on Workbench 2 and 3 to help you design your own icons.**

HAIRY DISK SOLUTION

FROM: STEPHEN 'BEAVER' BAKER, PRESTON, LANCASHIRE

Here's a really handy tip for anyone that has loads of rather old and tired disks. If you do have a disk that has acquired a 'hard error'– that is, one that cannot be corrected by reformatting the disk – you would normally have to throw it in the bin. Not anymore though!

Hard errors can easily be fixed, all you need to do this is an electric shaver that is powered from the mains electricity (AC). Give it a good clean out first so that you don't get any bristles on your disks. Then plug it in, switch it on and 'shave' the disk! No don't worry, it's not a joke. Pass the disk all around the shaver, next to the sides as well as the top. It may need a few attempts, both at shaving and reformatting, but in the end you'll find you can format over the error!

This method works because the AC current generates a magnetic field which straightens and strengthens the 'broken' tracks on the disk.

I keep saying that I've heard everything, but people keep sending in the weirdest tips, that seem totally ludicrous but do actually work.

```
Makedir RAM:Printer
Copy >NIL: Sys:PrintSpooler.icon to
RAM:Printer.info
Echo >RAM:.backdrop ":Printer"
Run >NIL: Execute SYS:s/Printer
```

`Makedir` just gives the dragged icons somewhere to live. Copy creates the icon in RAM, and provides somewhere to drag the document icon to. The echo line leaves the image of the printer on Workbench for easy access. The last line sets the script (the next step) in motion. Don't forget to save the startup-sequence to the S directory when you're finished.

3) Type in the following script. Use *Ed* or *MeMacs* again, and save it in your S directory under the name Printer (purists may want to alter its protection bits). Again, if you don't understand it, don't worry – it should work...

```
Resident C:Wait ADD
Resident C:List ADD
Resident C:Protect ADD
Resident C:Delete ADD
Failat 21
LAB Loop
  List >RAM:ProtectScript
RAM:Printer/#? LFormat "Protect %s%s
+d"
  List >RAM:DeleteScript RAM:Printer/#?
LFormat "Delete %s%s +d"
  List >RAM:PrintScript
RAM:Printer/~(#?.info)#? LFormat
"SYS:Utilities/PrintFiles -f %s%s"
  Run >NIL: Execute RAM:PrintScript
  Wait 10 secs
  RUN >NIL: Execute RAM:ProtectScript
  RUN >NIL: Execute RAM:DeleteScript
  Delete >NIL: RAM:ProtectScript Quiet
  Delete >NIL: RAM:DeleteScript Quiet
  Delete >NIL: RAM:PrintScript Quiet
Skip Loop BACK
```

It's not a perfect script, but you will find it works. You must have the *PrintFiles* utility on your boot disk though – the script expects it to be in the Utilities drawer (that extra long line which is probably split into two).

4) Reboot and pray... to use the new script, just drag the icon of your text file on top of the printer icon (which you should *Snapshot* somewhere away from the disk icons). Make sure your printer is on and wait. Good luck!

Remember also that to edit or create an icon to use a program like IconEdit on Workbench 2 or Icon Master.

WILL IT WORK?

FROM: CARLOS JOHNSON, LONDON

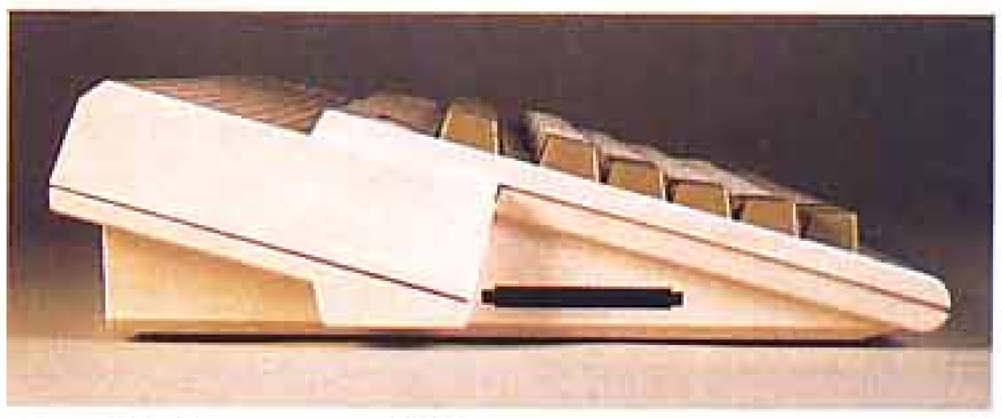
1) I am about to buy an A600. My A500 broke down a year ago. I have still got the software I used and understand that the A600 doesn't run some old sofware. Can you please print a list of all the software that doesn't work?

I'm sorry, no. Too much space. You can get a list from Commodore (0628 770088). Bearing in mind the A500 Plus came out a year ago, chances are that a fair proportion of your software won't work.

2) The newer Amigas have an improved Agnus chip which is the reason for this incompatibility problem. Will new software and hardware take advantage of this?

Quite often games do demand a fairly up to date (ECS – Enhanced Chip Set) Agnus. Newer games sometimes don't work on older Amigas – and this is a trend that will continue and grow.

3) When will we be able to expect games for the PCMCIA slot and will they cost more than disks?



PC MCIA slots are rapidly becoming a computer standard, but software houses are wary of the cost at present.

Next year, at the earliest. Nobody in the Amiga industry is really that interested in this medium, because they are much more expensive to produce. However, I reckon software will appear that uses it but it will probably be for serious stuff like word processors and DTP because serious programs cost more anyway.

I reckon that PCMCIA games will appear one day, but I really wouldn't hold your breath, because its success will only be achieved by people outside of the Amiga community.

5) Are *Streetfighter II* and *Streetfighter '92* going to be combined on the Amiga version so that you can pick any of the 12 characters, how will the six button joystick be done and will you be able to play against a friend?

I don't really know much, except that it will definitely be a two-player game, and it will be totally joystick

Continued overleaf

based. I also know that the programmers are working hard to make it as controllable as possible within the limitations of a single-fire joystick. The programmers may include an option to use a Sega joypad to help.

BIG UPGRADES

FROM: SAMUEL EVERETT, DEVON

I have recently purchased an A500 Plus and I have also bought your magazine ever since but, believe it or not, I still have some questions which are unanswered. Could you answer the following...

1) If I bought a Progressive Peripherals and Software 68040 accelerator board, would fitting it invalidate my warranty? Would I need anything else to make it work, like a bigger power supply? And what is 32-bit RAM?

Yes, fitting would invalidate your warranty. No, you wouldn't need a bigger power supply unless you have lots of other memory and a couple of extra disk drives. 32-bit RAM is memory that can be accessed by a 32-bit processor like a 68020, '030 or '040. Running those processors without 32-bit RAM is a waste, as they are not performing at their best.

2) Where can I get hold of an internal 100 Mb Prima hard drive? How much? And would it work with the above?

Unfortunately, the Prima 100 made by ICD is now very uncommon. I've heard that the AT Quantum drives, which were used in the design,are no longer being manufactured. However, you can get the Novia internal hard disk with a 100 Mb hard drive - Power Computing (0234 843388) do them for £459. Neither the Prima nor the Novia work with the PP&S 68040 card, because all of these expansions plug into the processor socket.

3) Are multisync monitors VGA, SVGA or neither?

Both! VGA is closely based on the American NTSC television standard. SVGA is similar, but with more horizontal scan lines, giving greater vertical resolutions. Multisyncs are adaptable to either standard, and others besides. So multisyncs are much more flexible.



The Prima 100, sadly now in short supply apparently due to a dearth in the market of full height IDE drives.

4) What is the best typing tutor for adults? Preferably cheap?

Well, *Mavis Beacon's Typing Tutor* (Mindscape 0444 246333) isn't that bad, but personally I found that attending night school over a few weeks helped a lot with my typing. You can get a typing qualification out of this too.

5) What's the highest accolade that you've ever given to a CDTV title?

Well if you turn immediately to Pages 146-147 you'll see the first ***Amiga Format*** Gold award given to a CDTV title. Prior to that, the disc to have the highest percentage mark was *Japan World* from Global Learning Systems, an educational CD all about Japanese lifestyle and culture, and it received a rather stunning 89 per cent.



Japan World is one of the best CDs that we've had to review. Turn to Pages 146-147 for more reviews.

6) Is it worth getting a hard drive to help me play games, possibly do some animation and maybe more serious stuff in the future?

A tricky question to answer. A hard drive is well worth considering, but a nice big memory expansion, or an accelerator with 32-bit memory would probably be better for animation work and some games. A hard drive is more of an efficiency booster than a necessity – it enables you to load and save much faster, which does make life much easier, but it's not a vital necessity (though if you bought one you might disagree – new hard drive owners are positively fanatical). Then again, if you do a huge animation, you'll need a huge disk, ie a hard one, to store it on.

HOW CAN YOU TELL

FROM: MARTIN GEORGE, WALLSEND

I have an unexpanded A500 Plus. I have decided that I really do need an external drive. You highly recommend the RocLite drive but I have heard of compatibility problems with my machine. Is this true, and can it be overcome?

The RocLite slimline drives do indeed have problems, not just with the A500 Plus but with all Workbench 2 machines. In a nutshell, when saving files they go faster than the machine can really cope with, resulting in corrupted files. You can use RocLites if you just read from them, and never save files to them. Newer RocLites do not have this problem, but telling the difference between a dodgy and OK type is not easy. If you have a Workbench 2 machine, my advice would be to go for a different make.

I am also interested in digitising, and the Vidi Amiga 12 package seems excellent value. Would I need to buy a genlock too?

No, not at all. Digitisers translate video images into Amiga IFF pictures. Genlocks enable you to overlay Amiga graphics on top of video images. You will need a video source though, either a video cassette recorder or – better still – a video camera.



New production RocLite drives work on the A500 Plus, but only by testing them can you tell if they're OK.

DTP QUICKIES

FROM: PHILIP CHUNG, CHELTENHAM

For all my DTP needs I currently use *Pagesetter 2*, but I intend to upgrade to either *ProfessionalPage 3* or *PageStream 2.2*. But I have some questions before I finally decide...

1) *PageStream* can use Adobe type 1 fonts, but does this mean that I need a PostScript printer to print with these fonts? Or are they similar to AGFA Compugraphic which can be printed on any graphics-capable printer?

No, they will work if your printer can manage a graphical output – you don't need PostScript. Adobe type 1 fonts are encrypted, which means they have to be decoded by the DTP program when printing – so they are a tad slower than Adobe type 3s, which are not encrytped.

2) Are there any advantages to Adobe type 1 fonts?

Only that there are a lot of them, especially in the PC and Mac worlds. Transferring them to the Amiga requires some sophisticated utilities (*PageStream 2.2* comes with suitable software to do this).

WHEN IN ROME

FROM: ROBERT MULLER, SWITZERLAND

I've got a problem with the games Coverdisk from *Amiga Format* Issue 39. I click on the *Caesar* demo icon, and the program begins to load. Almost immediately an *IconX* window appears. After a few seconds it disappears, and nothing else happens, except the screen only has two colours: blue and white. What can I do? The rest of the disk seems to function. I have an A500 with 1Mb of RAM.

Ah, I know the culprit well – me. I am very, very sorry to all the A500 users who couldn't get the demo to run. Here's the reasons why;

1) In order to fit on the Coverdisk, the program had to be crunched.

2) Before the *Caesar* demo starts, it removes a bit plane from Workbench. This makes it a two-colour affair but, as you can't quit from the demo, it's not a problem. The reason for this is to free up more chip



The *Caesar* demo was very popular with those who could run it. The full game does work on all machines – promise!

memory for the demo. The crunched version of *Caesar* needs a little bit more chip RAM in order to decrunch. 3) A500s have only got 512K of chip RAM.

So, although the uncrunched demo works on A500s, and the full game works on A500s, the crunched demo on the Coverdisk doesn't work on such machines. I will be checking much more closely that crunched programs do indeed work on all machines.

THE ANSWER AT LAST

FROM: RJ DABELL, BARLESTON

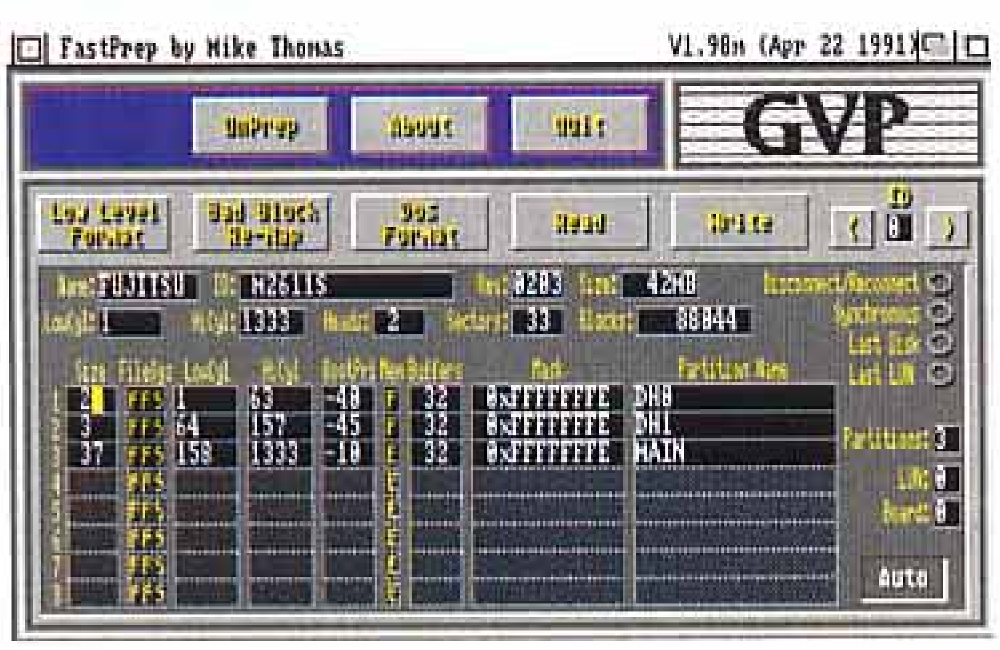
I have noticed recently that readers are having trouble with hard disks and Kickstart ROM sharers with both Kickstart 1.3 and 2.04 on. There is a very, very simple way for the machine to work out which drive to boot from. It does mean partitioning your drive so that one Workbench is on one partition and the other is on a different partition, but it's very easy to setup and totally automatic afterwards.

You have two bootable partitions, one called DH0 (for Workbench 1.3) and the other called, say DH1 (for Workbench 2 which isn't so fussy). Each partition should be at least a couple of megabytes in size, preferably a bit more to be on the safe side. You can have more partitions for your programs, but personally I use all the rest of my hard disk as one big partition.

All you do then is change the boot priority of DH1 (or whatever you've called the Workbench 2 partition) to be greater than the boot priority of DH0. When Workbench 1.3 is selected, it will automatically boot from DH0. When Workbench 2 is selected, then DH1 will boot, because it has a greater priority when booting.

Don't set the boot priorities too high – if you set them above -30 then floppies will not be able to boot. I personally use a priority of -45 for DH0, and -40 for DH1.

Very clever For the confused – a boot priority of -45 is less than a priority of -40 (think negative numbers).



If you have a GVP drive, then select manual installation and get your screen looking like this. Do a back-up first!

Techno Babble

Do you know how to talk techie speak? Well if you don't then this little bit of jargon-busting should sort you out!

Accelerator: hardware expansion that gives your Amiga a faster CPU. Often used with maths-intensive software where a standard processor is too slow, for programs called 'raytracers' which literally trace the rays of light which bounce around a scene to produce a picture. Also used to considerably speed up flight and other kinds of simulations.

Anim Brush: a brush is a small section of a graphic screen, cut out with a paint program like *Deluxe Paint*. Anim brushes are different small images with the same dimensions – for instance, a bird flapping its wings or an eye blinking.

Blitter: BLock Image TransfER device. Used for copying large areas of memory from A to B, or to combine different areas into one single image. Widely used to generate large graphic shapes in computer games.

Bridgeboard: Commodore's own IBM emulating device, featuring a complete PC computer on a single card. Only fits A1500 and above machines – enables use of standard PC cards.

Chip RAM: memory accessible by the custom chips (Paula, Agnus, Denise) as well as the processor. Used to store all graphics and sounds. Can be used by programs too – with speed slow downs.

CLI: Command Line Interface. The program which enables you to type commands into AmigaDOS for standard operations like copying files or getting a directory. Shell is more commonly used now.

Copper: co-processor. Used to generate subtly coloured backgrounds – this device is built into the Agnus chip and it can alter colours while the screen is being generated. Executes instructions at the same time as the processor.

CPU: Central Processing Unit. The decision-making chip, the one that tells everything else what to do. It can be interrupted by custom hardware if its programs are in chip RAM.

Fast RAM: memory that's only accessible by the processor. Programs stored here run faster than those in chip RAM – hence the name.

Frame grabber: device for capturing live video data and converting it into computer picture data. Doesn't require a still video signal. Usually gives much better results than a video digitiser, which does the same job, except that the video must be paused.

Freezer cartridge: quasi-legal device for examining programs while they are running. Usually with many useful built-in utilities which help overshadow its dubious origins.

Hard drive: basically a big disk for keeping Workbench and all the serious software that you use. Works much faster than a floppy disk. More and more games are becoming installable on to a hard drive.

IFF: Interchange File Format. A standard way of storing pictures and sounds, invented by Electronic Arts and adopted by Commodore. A single standard – practically all art programs can load and save pictures in this form.

Kickstart: the name of the set of programs which are run when the Amiga is turned on. Also contains many library functions for use by programmers. Latest release is Kickstart 2.04. Other releases; 1.3, 1.2, 1.1.

PD: Public Domain. Literally, software that is the property of everybody. PD disks can be freely copied by anyone, and you can also distribute them to whoever you want. The correct term is 'Freeware'. 'Shareware' (try before you buy) and 'Licenseware' (commercial and non-distributable) also come under the same rough heading.

ROM: Read Only Memory. Memory that cannot be altered. Widely used as the starting programs for computer systems that have just been turned on – ROMs remember things permanently.

RAM: Random Access Memory. Memory that can be altered and re-altered many times. Typically, it does not remember what it contains when the computer's power is switched off.

Scanner: hardware device for reading flat pictures from posters, newspapers and so on, and converting them into computer graphics. Often used in desktop publishing to read in previously published images.

Script file: a set of commands which you would otherwise have to type into the CLI or Shell by hand. Saved as a text file. Learning how to use Shell or the CLI involves learning how to write script files.

Shell: more up-to-date version of CLI. Works in exactly the same way, but enables some flexibility in what commands are called via the 'alias' function. Also gives some hot-key combinations to enable some editing of previously entered commands.

Sound Sampler: hardware device that converts electrical music signals (typically from a tape or CD player) into computer sound. Can also be used with a microphone to capture live sounds.

Sprite: a graphic object that is independent of the screen. On the Amiga, sprites are limited in size and colours. Typically used for mouse pointers, alien missiles, and so on.

Startup-sequence: the name of the script file, contained in the S directory, which is executed after a disk has booted. Typically contains just the name of a program to auto-run, but can be very complicated. Whatever the nature of the file, it must always be called Startup-sequence and live in the S directory.

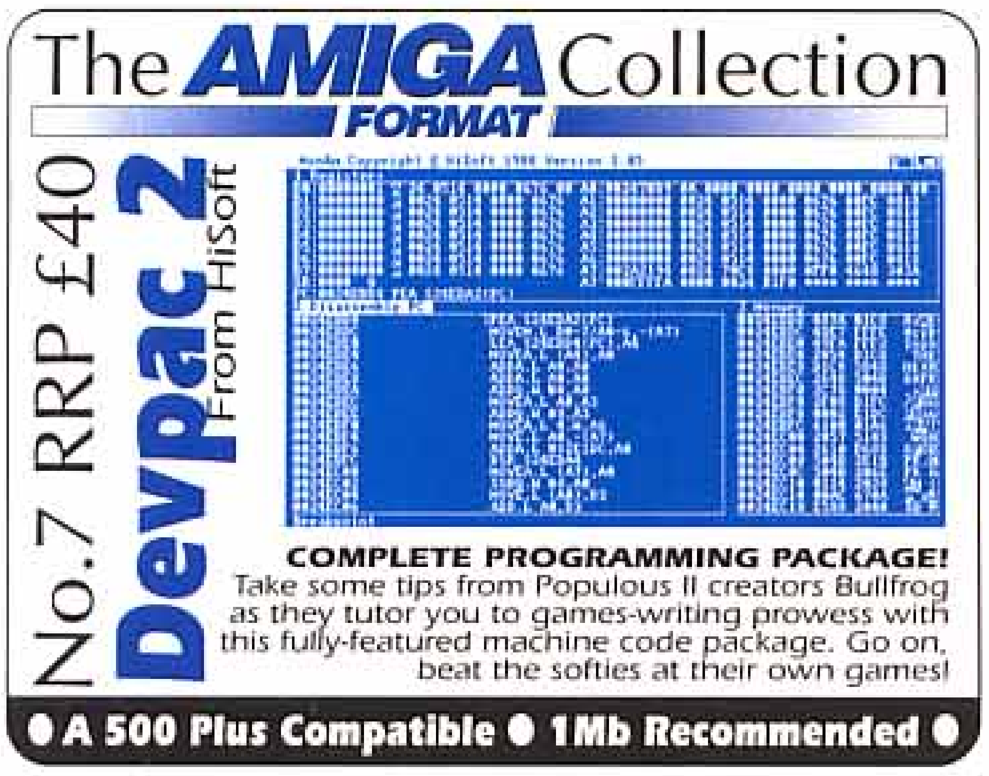
Workbench: the set of programs which sets up a graphical 'point-and-click' interface on the Amiga. Much more friendly than the CLI or Shell, but not as flexible. Always has to be loaded from disk, which is slow but does enable much customisation. Workbench 2 requires a Kickstart 2 ROM. Workbench 1.3 requires a 1.3 ROM, 1.2 needs a 1.2 ROM and so on.

Zorro: this the generic name for the Amiga's expansion connector. The A500, A500 Plus and A1000 had the original Zorro I; the A1500s and the 2000s have Zorro II; and the A3000 has Zorro III. They are not compatible, hence the different expansions for different machines. The new A600 has a PCMCIA connector instead.

Answerfile

Should I buy an A300? How do I learn about Workbench? These and more questions are answered by Amiga guru, **Pat McDonald**.

Q I have been following the *DevPac* tutorial but I just can't seem to work out the code to move the sprite down the screen. Please tell me what to put in.



If you kept getting error messages when trying to assemble the Bullfrog demo, then read this explanation!

A First, a note which was not made plain with the original programming feature: in order to see any changes you make to the code, you must save them onto the *Devpac* disk. Then load `demo.s` and assemble as per the instructions. If you try to assemble the individual files (`draw.s` or `move.s`) then *DevPac* will report a number of errors, because the code refers to bits in the other files. `demo.s` is the glue that binds all the files together – it's the only file that will assemble properly.

As for the extra code, here it is. It's actually easier to copy the existing code and modify it to refer to the `man_y` variable (the sprite's position down the screen). Below is a suitable piece of code for the purpose if you are stuck. Don't be afraid to change the value of `#200` in the third line (the limit down the screen) or the `#-16` value in the fifth line (the start position of the sprite).

```
    move.w    man_y,d0       ;get the y
                             position
    add.w     #1,d0          ;and add 1 to it
    cmp.w     #200,d0        ;Is y too big?
    ble.s     .lessthany     ;no, still on
                             screen
    move.w    #-16,d0        ;yes, reset
                             man_y
.lessthany
    move.w    d0,man_y       ;store the new
                             value in man_y
```

Here's how it works. The value of `man_y` is put into the `d0` register by the first line. The second line adds one to this. The third line compares this value to 200. If `man_y` is bigger than this, then it is reset. Otherwise `man_y` is less than or equal to 200 (not too big) and the program jumps to `lessthany` and puts the y position currently in `d0` back into `man_y`.

Q Where can I get a CDTV memory upgrade?

A No fast RAM CDTV memory upgrades are available, as far as I know. It is possible to mount a 2Mb chip RAM board, which gives you 2Mb of chip RAM – WTS (0582 491949) do one for £139, although it may be a little large for CDTV use. The DKB Megachip 2000 from Aquarian PD (0703 685006) may serve your needs better, although the smallest such expansion I've seen is the RossMuller from Germany (I know of no UK supplier).

Q Can I make my own CDTV Gamebrick? I've bought all the connectors and just want to know how to wire them up.

A I'm sorry, hard facts about the CDTV are still in short supply, at least where I'm concerned. If anyone were to write in with a suitable DIY project, then we would certainly consider publishing it. Any offers out there?

Q When will Psygnosis' new CD title *Fantastic Voyage* be released?

A Well, the game is actually called *Microcosm*, it draws a lot of its ideas from the film *Fantastic Voyage* (and from the later, *Inner Space*, for that matter) and it is also being funded by Commodore. As for an exact release date, although a demo video tape has been shown by Commodore which bodes well, neither Psygnosis nor Commodore are being specific about days or months, or years.

Q Where can I get CD+G disks?

A They are available from large record chain-stores – places like Virgin and HMV. They won't usually be on display but they can be ordered through such places.

Q How do I find out how the memory in my Amiga is configured? The difference between fast and chip memory is not apparent.

A You haven't got Workbench 2 yet, have you? On that release, this information is displayed at the top of the Workbench screen. To get it on earlier machines, load Workbench, double click on the Shell or CLI and type this:

```
Avail
```

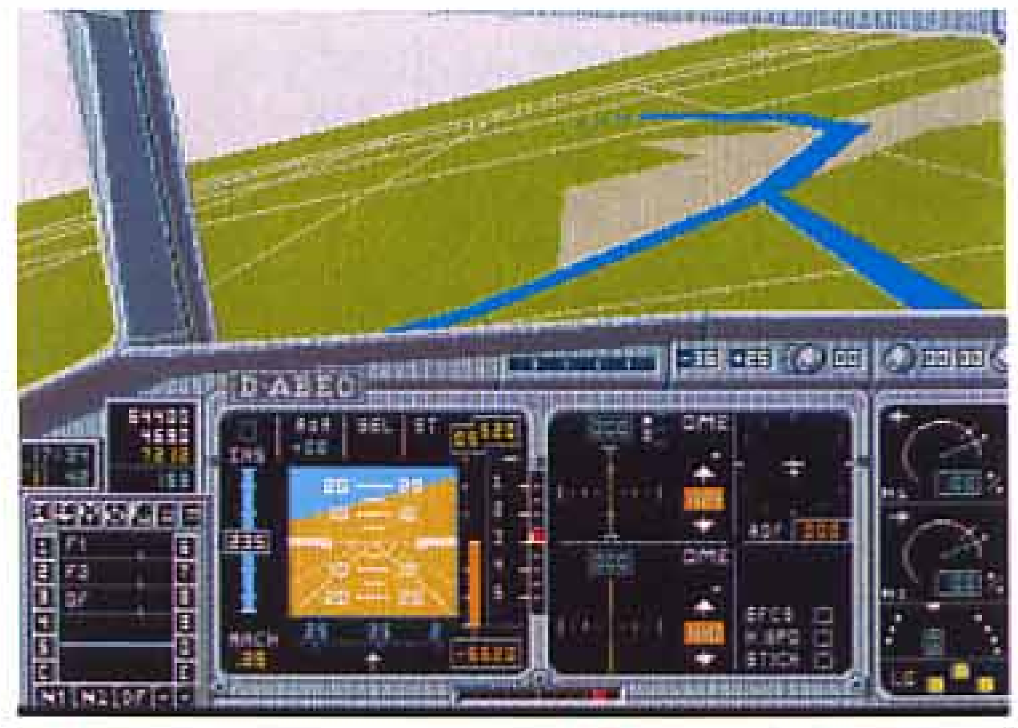
Don't forget to press the return key. The Amiga should print out the current amount of memory used (both chip and fast memory) and the total amount of RAM, in bytes.

Q How do I get Amiga sound through a couple of personal stereo speakers?

A Use a hi-fi stereo amplifier. There are many different types – look for an amplifier with RCA phono jack inputs (as found on the back of the Amiga) and personal stereo speaker outputs.

Most hi-fi shops could take a description like that and come up with several alternative designs. A hi-fi enthusiast could build one for you very easily. Although it probably wouldn't look very nice, it would sound good.

Q Could you tell me whether *A320 Airbus* works properly on an A500 Plus?



***A320 Airbus* is notoriously fickle on A500 Plus machines, but an update is promised very soon.**

A Well, judging from the letters I've had, no. Thalion do have a single disk version for Workbench 2 players, but you have to arrange to receive it direct from the company themselves.

Q I was going to upgrade my A500 with an accelerator, flicker fixer, hard drive and so on, but I am now very tempted to buy an A3000 (because it's cheaper). Please help me convince my wife that this is a sound move.

A I'd wait. While the A3000 is a fine, fast machine, the A1200 (while not as fast) will have a longer life span before becoming obsolete. And it's cheaper too! If the speed is what you want most (rather than the much better graphics of the AA chip set) then you could certainly argue that the A3000 is much more of a bargain than an A4000. And don't forget the flowers and chocolates.

Q I often feel frustrated and let down by the instructions for your Coverdisk collection. *CanDo* and *DevPac* especially need plenty of knowledge in order to use effectively. Can you print or supply more detailed instructions please?

A In the case of *CanDo*, nobody wanted to supply a manual. I did ask around, but nobody thought it was worthwhile, especially with the latest version of *CanDo* being available. In the case of *DevPac*, we have noted the loud calls for better documentation and we will be printing short pieces on using the program, but learning how to program effectively with it will take many months.

Q Do accelerators (68010, 68020, 68030 or 68040) cause compatibility problems? Do they work with all hard and software?

A Yes, no and no. Many programmers work on unaccelerated machines, and there are no easily available manuals on programming more exotic processors. This results in incompatibility. However, things are not as bad as they were – the A3000 and A4000 offer an incentive for programmers and hardware designers to make their work more compatible.

The number one incompatibility area is the Public Domain. Number two is games, number three is productivity/creative software, and the most compatible area is business software. As for hardware, overall compatibility is much better.

However, the fly in the ointment is the 68010 processor. This has not gained wide acceptance, and so very few machines have it fitted. In terms of compatibility, fitting a 68010 is a bad move.

68020s and '030s are generally speaking, the most compatible of the accelerator options, simply because they're what most accelerated Amigas are kitted out with. '040s, while very fast indeed, need Workbench 2 in order to work and are a relatively new challenge for programmers to work towards.

Q Is it possible to upgrade my A500/A500+/A600/A1500/A2000/A3000 to the AA chip set?

A Very doubtful. Commodore themselves will almost certainly not offer any sort of upgrade to the new chip set – there is a slim chance that an upgrade for the A3000 may appear, but not for lesser machines. However, third-party upgrades may appear. If they do, they will probably be very expensive, as older machines will require extensive modification (and Workbench 3) to be able to use the AA chip set.

Q Which ROM switches can I fit to my A600? I'm don't mind losing my warranty, but I don't think many will fit into the restricted space.

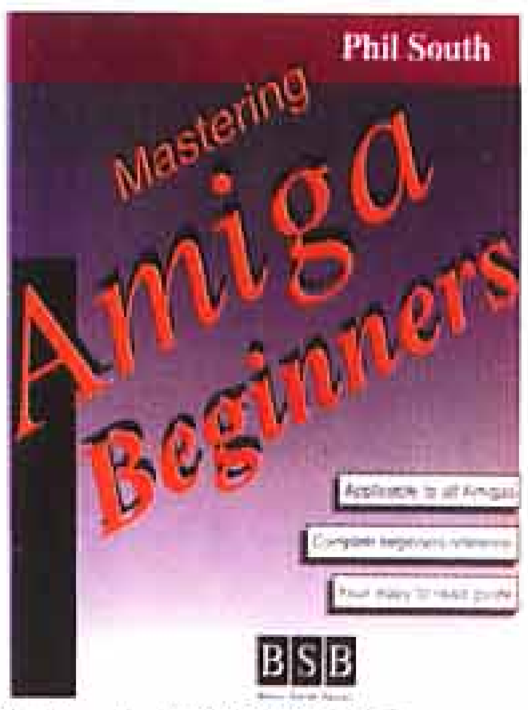
A The Phoenix ROM sharer will certainly fit inside an A600. Phoenix 0532 319061.

Q *XCAD 3D* imports DXF files. Is there a program to convert *XCAD* files to DXF format?

A All versions of *XCAD* can export DXF files. However, you need to setup your Amiga-to-PC file conversion utilities properly. If *CrossDOS* or *MessyDOS* isn't setup to strip the carriage returns (CRs) and line feeds (LFs) from a file, it will not read into PC CAD programs such as *AutoCAD*.

Q Which book do you think is good for learning more about Workbench?

A *Mastering Amiga Beginners* is a gentle introduction to the subject. *Mastering Workbench 2 Vol 1* is meatier, and is a hands on tutorial written by Mark Smiddy. Vol 2 of the set is a reference guide for the experienced user. Both volumes cover WB 1.2, 1.3 and 2 – but not the brand new WB 3.

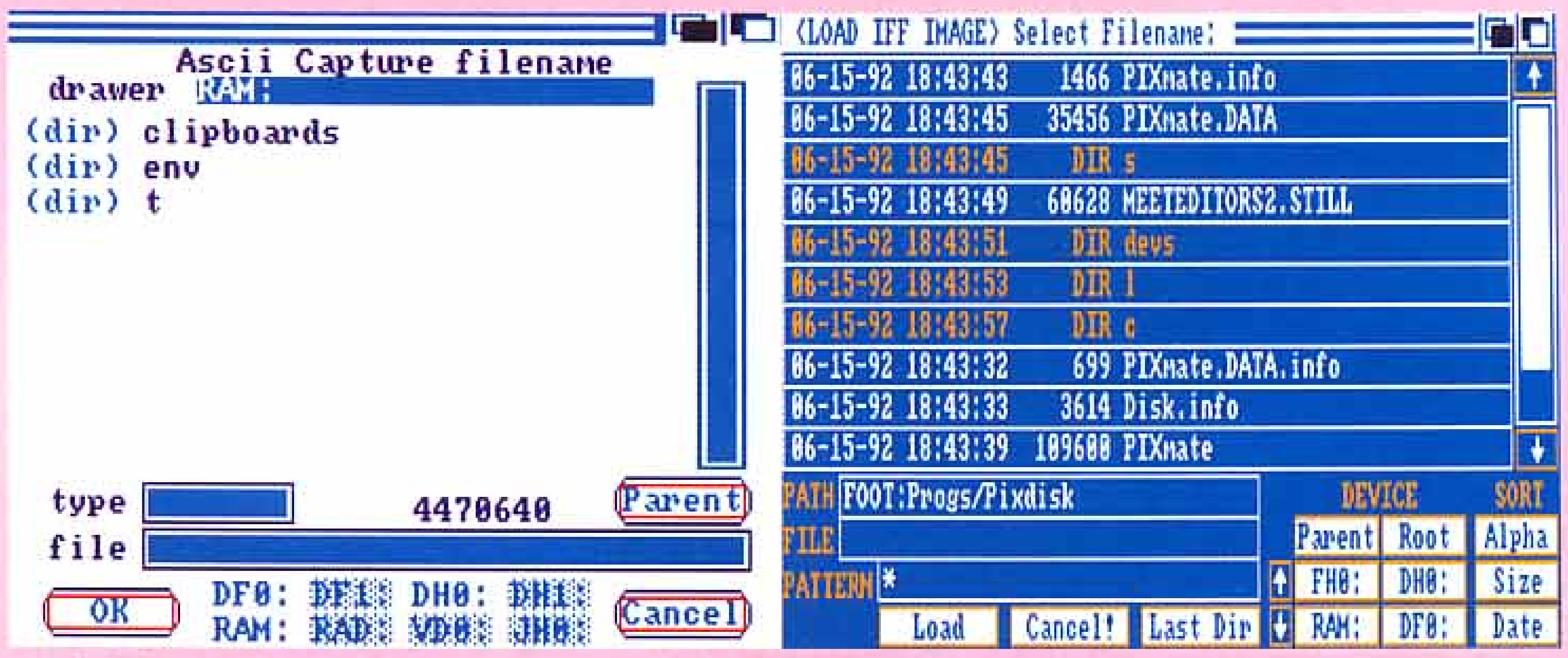


Available from Bruce Smith Books 0923 894355.

Q Where can I get an ST506 hard drive controller for my A500 Plus?

A Well, you can't. There is an ST506 controller for the A500. It plugs into the trapdoor expansion (which is why it doesn't work on a Plus). It's made by Cumana (0483 503121). Cumana have no plans to produce an A500 Plus version.

In-depth explanation No. 9: Libs and Devs



On the left is the ARP.library file requester, grabbed from the *NComm* shareware program. Justin McCormick's file requester is much better on the right – it's easier to get to the right disk to load or save from.

1 Libs is a drawer that's found on Workbench, and many other disks besides. It's used to store libraries. A library, as far as Amigas are concerned, is a set of little programming routines organised into one complete block. Most of them are built into the machine, but a few are to be found in the Libs drawer.

2 A programmer will often make use of a library, in order to avoid some code writing. Most cannot be bothered to write their own file requesters. So they use a library like the `Arp.library` (Amiga Resources Project). If the library isn't included in the libs drawer, the program won't run.

3 `Arp` is often used by shareware and older programs. Many programmers prefer the *Reqtools* file requester, which is a bit more friendly and easy to use. It makes sense to keep a disk which you put common libraries on to. That way you avoid filling up your Workbench disk with libraries that are not used very often.

4 The current trend in PD and shareware circles is to use compression utilities like *PowerPacker* and *Imploder*. Libraries which support these programs are ones like `Decrunch.library`, `Explode.library` and the original `PowerPacker.library`. Each of these libraries has been released in different versions – the easiest way to tell them apart is by how big they are. These particular libraries can be found on the Coverdisk this month, but cannot be used properly with the *EarlyExplode* program (which will be on next month's Coverdisk).

5 Strictly speaking, you are not allowed to distribute libraries without the programmer's permission. Libs are programs, copyrighted just like others. In the above cases, copying is widespread on the PD and shareware scenes – but don't think you can help yourself to any library you come across. If you are a programmer, always get permission before you use someone else's library, unless it's a freeware library that can be used by one and all.

6 Devs is a drawer on Workbench used to store device files. These are typically used to control various pieces of hardware, but are otherwise fairly similar to libraries. Again, they are there to save programmers writing extra code. More importantly, they let different programs access the same hardware, without each program having its own set of driver routines.

7 The most common complaint that new users come up with is that a program will not print out. This can be due to not choosing the right printer driver (see In-depth Explanation 1) but if the Amiga cannot find the `printer.device` file in the devs drawer, no printing can be achieved. Again, there are different versions of this library – it's fairly common to be able to print with one version but not with another.

8 Some device files are extremely odd and limited. The most obscure are the `Scala.device` files, found only on that program. As well as being huge (over 100K long) they usually only work with one version of *Scala*. They don't even control hardware! This sort of device file is very much the exception to the rule that device drivers are for controlling hardware.

9 Something else you will find in the devs drawer are 'Mountlists'. These are collections of Shell commands and definitions, and can be viewed and edited with most word processors or text editors. Devices like the RAD recoverable RAM drive, 5.25-inch disk drives and similar weirdnesses are controlled through mountlists. Don't try writing your own until you understand the different entries and how they work.

10 The same libraries and device files exist in several different versions. One simple way to tell them apart is to look at how long the files are. Newer libraries and device drivers tend to be longer (because they contain more options and more complex programs). If you find a program that doesn't print properly and you're sure that everything else is correct, it's probably `printer.device` that's at fault.

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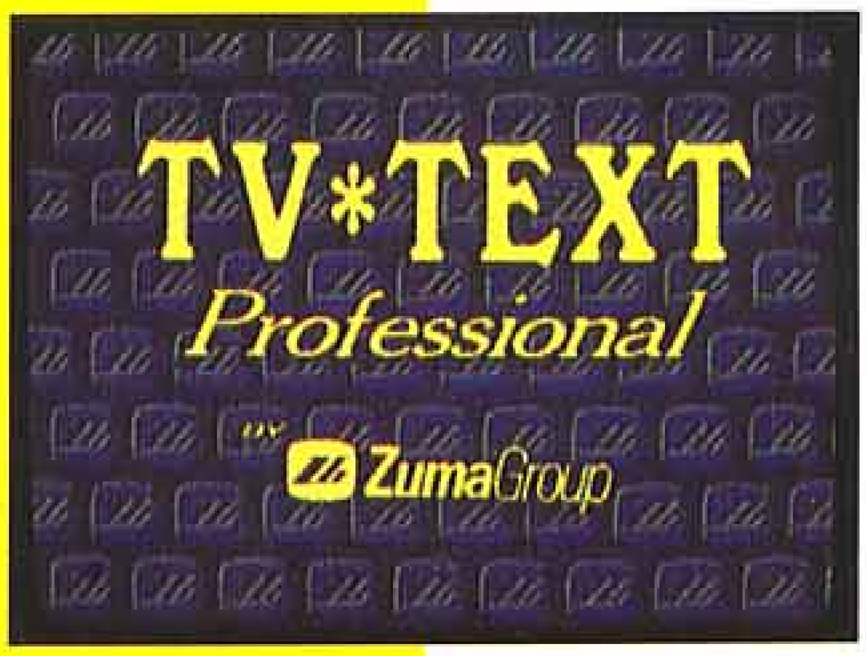
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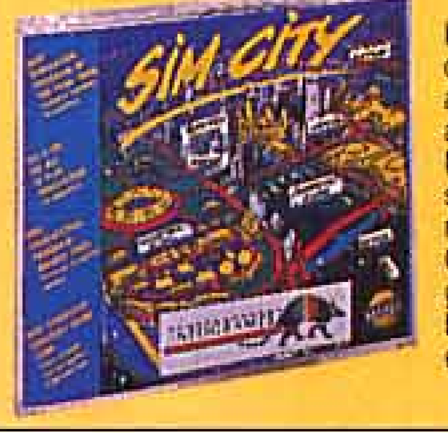
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The AMIGA FORMAT Collection

Superb, complete, full-price programs for practically nothing isn't the whole story of the **Amiga Format** Collection. You also have the chance to upgrade to new versions of the Collection programs at special prices. Here are the offers...



Sequencer One Plus Upgrade Kit

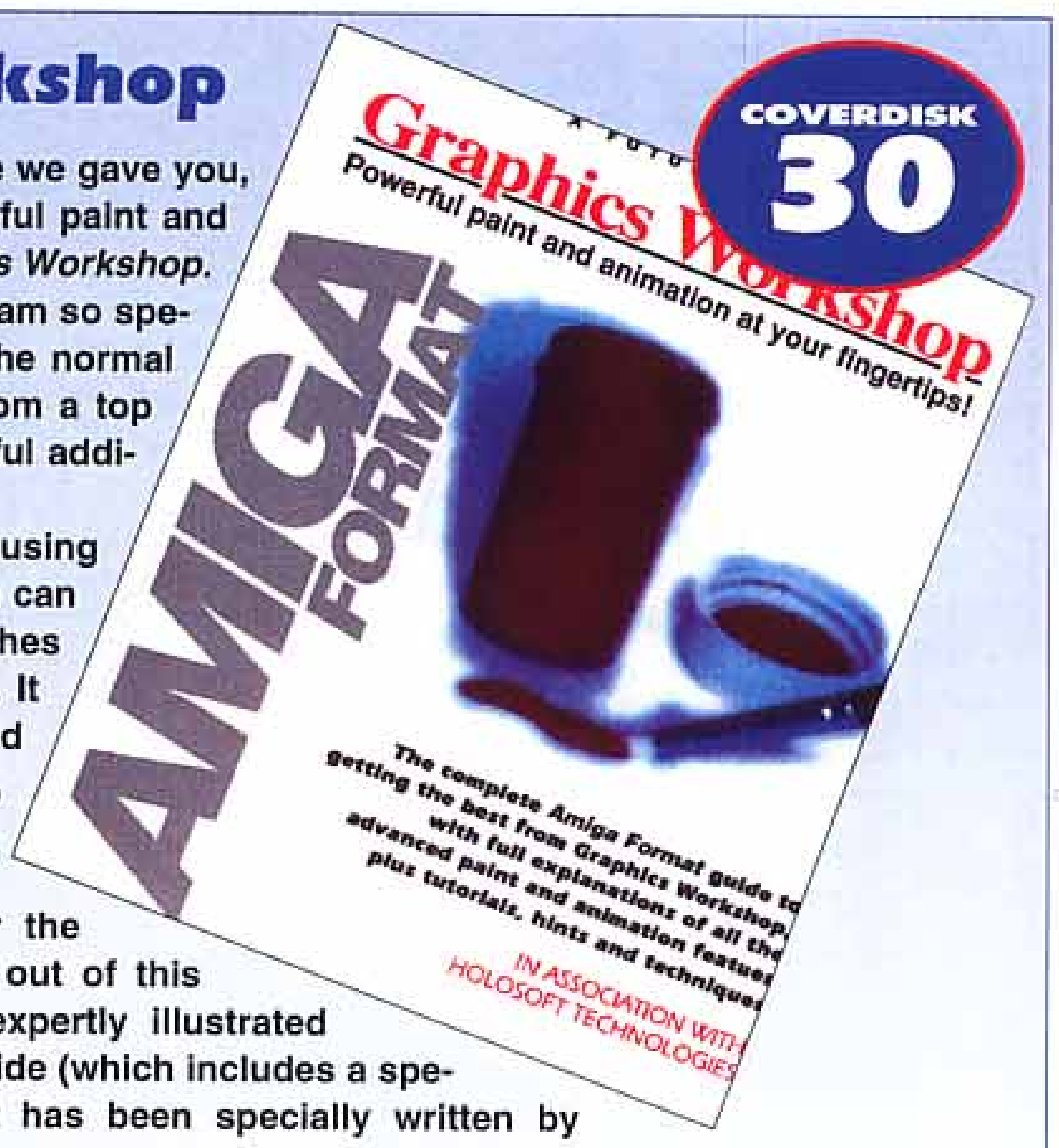
Also on the Special Christmas Issue was the powerful *Sequencer One* music package, RRP £89. (If you missed out on this amazing offer – which included *Graphics Workshop* as well – you can still get copies through Back Issues.)

Through ***Amiga Format*** Mail Order you can upgrade to *Sequencer One Plus*. By doing so you can take advantage of a whole host of extra features that are not available on version one. These include the unique Juke Box screen and Gajits' new 'Diamond Drag' note-editing system. Also included in this latest update is tempo maps, auto count in, MIDI sys ex handling, track solo, extra quantis options and much more!

All of this should really sell for a massive RRP of £129.95. For a short time though, *Sequencer One Plus* is available as an upgrade kit for *Sequencer One* owners (and that of course includes everyone who has the program from the ***Amiga Format*** Coverdisk 30) for £49.95 (RRP). But we're offering it to you at a mere £39.95 which works out at an amazing total saving of £90.

Description	Price	Order Code
Sequencer One Plus	**£39.95**	**AM235**

Graphics Workshop

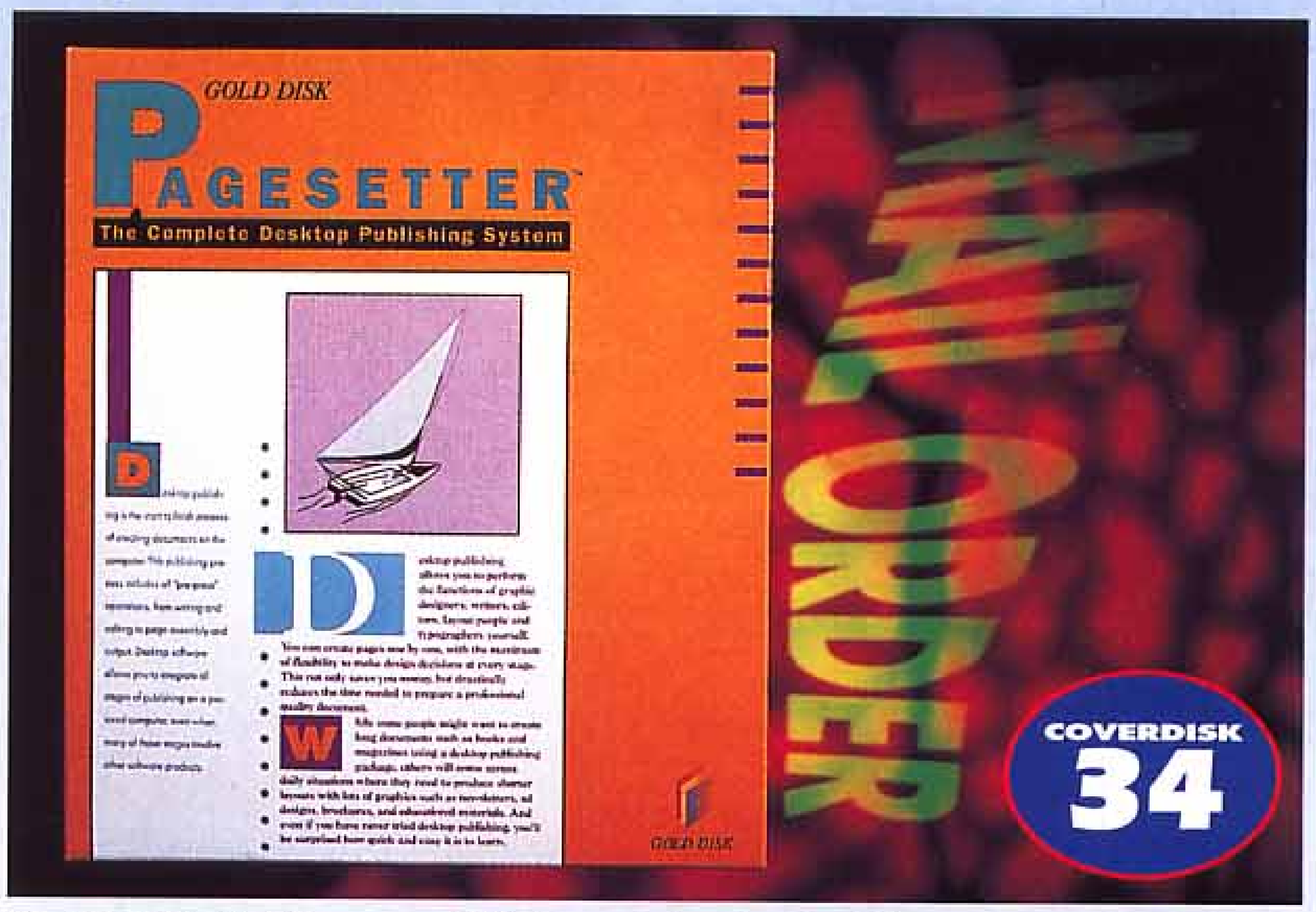


On our Christmas Special Issue we gave you, for virtually nothing, the powerful paint and animation program *The Graphics Workshop*. What makes this drawing program so special, though, is along with all the normal tools that you would expect from a top paint program are some powerful additional utilities.

You're not just limited to using one custom brush, instead you can pick up and store up to 10 brushes and use them at any one time. It also features not only ANIM and Animbrush forms of animation, but also a Cell system which is probably the most powerful animation system there is for the Amiga. Why not get the most out of this top program by buying this expertly illustrated instruction book and tutorial guide (which includes a special tutorial disk as well) that has been specially written by ***Amiga Format*** writer Maff Evans.

Description	Price	Order Code
Graphics Workshop	**£16.40**	**GPHWK**

PageSetter 2



If you want to produce a news letter for your local rugby club, or start up a footie fanzine then all you need is some DTP software. And there's no better program to start off with than *PageSetter*. We gave away version 1.2 of this very first Amiga DTP program on the Coverdisk of Issue 34, however if you want the current version here it is.

Gold Disk's update of the beginner's layout program takes a different approach from the original. It has been completely rewritten in machine code for extra speed. Also, rather than having separate text-editing and picture-editing modules, it now lets you edit text on the page. It also uses Compugraphic scalable fonts throughout, so extra quality on printout is guaranteed. All in all, this is the next best thing to professional-quality DTP on the Amiga. A full and detailed manual is included.

Description	Price	Order Code
PageSetter 2	**£50**	**PAGE UP**



Spectracolor

Oxxi Aegis actually produced *Spectracolor* before they made the *Junior* version featured on the Coverdisk of ***Amiga Format*** 35. It was the first HAM paint program to use full brush animation, in the style of *Deluxe Paint.* Its powerful features make it a must for anyone who wants to do real animation in 4,096 colours, and it also has a number of unique innovations:

Brush Wraps
Advanced PAINT Modes
Air Brush
Brush Animations – including curved path animation with fades and simple morphing.

But this upgrade, specially arranged through ***Amiga Format*** Mail Order, doesn't stop there. you'll receive a program disk, plus a sample tutorial disk and in-depth 300-page manual that will take you through countless examples and techniques showing you precisely why *Spectracolor* is such an excellent paint-and-animation package.

Description	Price	Order Code
Spectracolor	**£29.99**	**SPECT UP**

CanDo - latest version

If you want to start learning about programming a computer then you can't go far wrong with Innovatronics' 'applications generator' *CanDo.* With this package you'll be able to create a variety of applications, from accounts packages to complete multimedia information systems that encapsulate all the elements that have made this subject the talking point that it has become in recent years.

Other programs can also draw upon *CanDo*'s ability to use sampled sounds, IFF images, and even animations, and if you have Workbench 2 you can even use *CanDo* to control other applications on even hardware devices using ARexx scripts.

Innovatronics have been listening to requests from the people who used the original version of this powerful multimedia package, and the latest version 1.6 of the full professional *CanDo* program has a number of updates in accordance with their requests. Among these is full support for the the gameport device, which means you can even write games with it! The program comes with a full and detailed manual, which could make all the difference for aspiring *CanDo* programmers.

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CANDO	**£89.95**	**CANUP**



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  See Accessories below

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Switch to a monitor and
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If you are currently using your Amiga or ST with a domestic television set, then you are missing out on picture quality.

Unfortunately, because your TV is used to receiving inferior UHF transmissions from the airwaves, it only has a UHF socket. So, your computer has to downgrade its high quality digital RGB (Red, Green, Blue) signal to UHF to enable your TV to receive it. However, because your TV can only display using RGB, it has to convert the UHF signal back to RGB before it can put a picture on the screen. Of course, every time you convert from one signal to another, there is a loss of quality which means that the final picture on the TV is not as good as the original signal from your computer.

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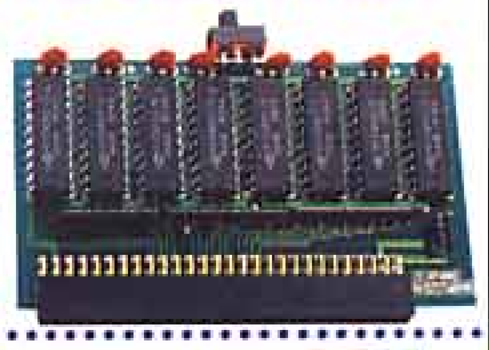
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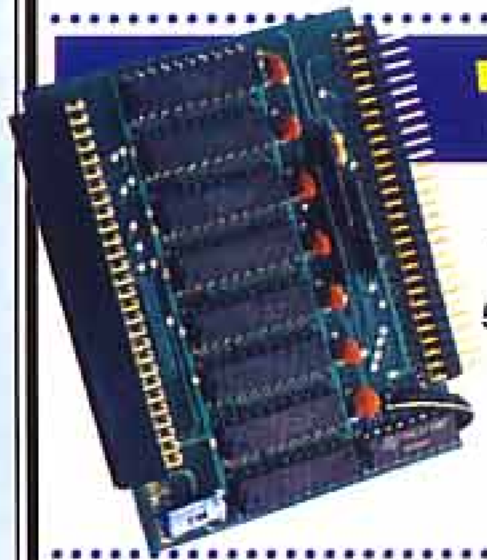
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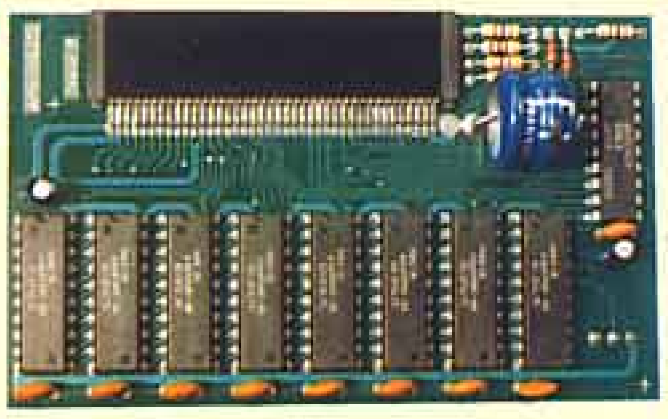
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• We can never give personal replies by mail, so don't send us a stamped-addressed envelope.

• We can under no circumstances give personal replies by fax, so please don't ask us to.

• We are available for enquiries by telephone every Tuesday between 10am and 6pm, and we'll be happy to talk to you then.

• Our advertising department can help with problems concerning companies who advertise in the magazine if you phone during normal office hours.

• Our subscriptions service and the ***Amiga Format*** Mail Order department are not in the same building. They can be contacted on 0458 74011.

WORKBENCH

If you have any problems with the technical side of your Amiga, with hardware or with serious software, Pat McDonald will try to answer you in the mag. Or, if you have any advice for others or any handy tips to share, send it in and you could win a prize.
WORKBENCH, ***AMIGA FORMAT***, 30 MONMOUTH STREET, BATH BA1 2BW

GAMEBUSTERS

If you've just found the cheat mode, mapped out the levels or found all the passwords for the latest game, send the info to Maff and you could win a prize. Or, if you're stuck, ask Helping Hand for advice – or solve someone else's problem and win a prize!
ANDY NUTTALL, GAMEBUSTERS, ***AMIGA FORMAT***, 30 MONMOUTH STREET, BATH BA1 2BW

LETTERS

The letters pages are there for you to air your views and share your opinions: please remember not to ask questions that should be in Workbench! Damien is looking for thought-provoking or entertaining letters, the shorter the better. Prizes given for the best two.
LETTERS TO THE EDITOR, ***AMIGA FORMAT***, 30 MONMOUTH STREET, BATH BA1 2BW

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To enter a competition, write the answers and your name, address and phone number on the back of a postcard or a stuck-down envelope and send it in. You can enter as many times as you wish, but all entries must be posted separately: don't put several entries in one envelope together, or include entries with letters to any other part of the mag.
COMPETITION, ***AMIGA FORMAT***, 29 MONMOUTH STREET, BATH BA1 2DL

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Letters

Welcome back to the bit of the magazine that's all yours – kind of. Here you can have your say, voice your thoughts and actually make a difference, provided you've got any ideas or opinions to offer and you're capable of expressing them succinctly! The address to write to is Letters, **Amiga Format**, 30 Monmouth Street, Bath BA1 2BW. This month we've got a bit of a stir going in, what with the steady advance of the A600 and the launch of the A1200...

HD OR NOT HD?

I am writing to you for a bit of advice on the new A600. I own an Amiga 500 with 1Mb and I am interested in buying the new Amiga 600. The problem is that I am not sure whether to buy the A600 for £300 or pay the extra money for the A600 and 20Mb hard disk. Please could you tell me what advantages there would be if I purchased the A600 with hard drive, and if it is worth the extra money.

Philip White, Horsham, W Sussex

*A hard drive makes an enormous difference to any computer, and we're about to start a crusade to get all Amiga owners to get a hard drive. Programs load quicker from HD and you can keep all your favourite programs there and save files (*DPaint *pictures, letters from your word processor) to it.*

However, if you buy a 600 you can also put an IDE hard drive in it later; the 20Mb drive in a 600HD is not really big enough (the American 600HD has a 40Mb drive); and remember, a lot of games don't install to a hard drive.

And I don't really see any point in moving from a 500 to a 600 – they're basically pretty similar. Wait for the A1200. Next issue we'll examine the ins and outs of installing an IDE hard drive inside an A600 or A1200.

WHICH AMIGA?

Help! I am planning to buy an Amiga around Christmas, but I can't choose between the A600 and the A500 Plus. I asked the nice man at Dixons, who advised me to buy an A600, but when I asked a man in a computer shop, he said to buy the A500+, because there had been compatibility problems with the A600 that the A500+ doesn't have. I bought your excellent mag, and read it from cover to cover, but I still can't decide. The £100 difference is a lot, so please advise!

Timothy Newman, Kington

Buy the A600 or A1200. The 500 Plus is now last year's model and in all the workings is identical to the 600. We're not aware of any software compatibility differences between the 500 Plus and the 600.

TV STARS (AGAIN?)

Concerning the use of Amigas as anything other than games machines, I would like to draw everyone's attention to their use in the music video industry. Watching MTV's Saturday night *Partyzone* programme, I was surprised to see the number of recognisable Amiga influences.

The video for *Shades* by House at Usher features the Fred Astaire lookalike dancing animation which accompanies (I think!) *Deluxe Paint III*. The same video has footage of a CAD program which has the USS Enterprise as one of the 3D models. (I'm not sure which package, but I've seen screenshots of it).

On the following videos, apart from the customary fractals/plasmutex effects, there was a simple polygon spaceship flying around, the classic juggler anim, a running man made of Bobs [blitter objects], and a display of some form of sampling software.

Although some of the effects might not be Amiga

Continued overleaf

Vision On

Got a picture you're proud of? Send it in, see it in print and win an *Amiga Format* binder! Since Letters is where you get to contribute your words, we thought it would be the perfect place to see your pics on display too. However your image was created, whether you've sketched it in *DPaint* or generated it with a ray-tracing package, we'd like to see it. Only the best will make it into these hallowed pages. Send your entries on disk in IFF format to The Gallery, Letters, *Amiga Format*, 30 Monmouth Street, Bath BA1 2BW.



Honda **by Martin Edwards of St Athan.**

related, most were too obvious to miss and can only be from an Amiga. The existence of our computer in such popular media can only be a good sign.

Richard Munden, Cottingham

Interesting. A lot of these are probably American in origin, and show how widespread the Amiga is over there as a video production tool.

Let's not start another bout of 'I've seen an Amiga on the TV' letters, but we would like to hear from anyone who is using the Amiga in video work.

AMIGA ON TOP

I think the new Amigas with the AA chip set will knock out the PC leisure market almost completely. The only reservation I have is what the software companies do – I would be upset if they went A1200 only.

I doubt this is very likely, though, as there are so many people who own A500/600 machines and won't be able to upgrade immediately. I think my major hope for the A1200 is that it could be used for game porting. This might stop us having to put up with poor PC conversions from unprofessional coders. Surely coding down from Amiga to Amiga would produce better quality games than PC to Amiga.

I've noticed a lot of comments in magazines about the PC versus Amiga situation. I know that you probably know more about it than me, but I have to admit reading Oracle last week cheered me up. One of their pages, related to computers, showed a Gallup survey which worked out that the Amiga beat all the other home computer leisure software sales hands down – even if you added all the rivals' sales together.

Robert Pomfret, East Didsbury

The news would appear to be that developers are working to 1200 standards then porting games down to the A500/600, which is good because it ensures quality and ambition.

As for the sales figures: yes, those are quite correct and it's worth bearing that one in mind.

PIRACY PART 1

A large proportion of Amiga software in use is pirated. With the Mac and PC, for every legal copy there are 1.4 illegal ones in use in businesses. Honest users keep the software houses in profit by paying highly inflated prices for software. This is immoral and unsustainable.

Enter stage left – CDTV, the great grey hope. Piracy will be eliminated only when it becomes uneconomic. A blank disk costs a few pence: a blank CD you can write to will cost about £10 but a CD costs 60p (and falling) to manufacture.

So release all software on CD for a tenner. Anything worth buying will be bought in huge quantities, including Amigas and CD drives. Try selling stuff for £30 – £40 and people will buy consoles.

The second part of the equation is quality control. I believe one reason for the home computer crash of 1983–84 was caused by a glut of poor-quality, expensive software. Quality control is one of the reasons for the phenomenal success of Nintendo. Commodore must go for quality rather than quantity.

What about me, would I buy a CD-ROM? Probably, just for the PD disc. Unfortunately I own an Amiga 1000 – you know, the one Commodore promised would be kept in step with all future developments! Perhaps you could mention this to them. Knowing Commodore they would just ignore me.

Oh, and in the article on games programmers it was stated that the PET is an ancestor of the Amiga. This is total rubbish. The Atari VCS and Atari 800 are the ancestors of the Amiga. Just ask Jay Miner.

David Foulkes, Prescot, Merseyside

You're quite right about CD being the potential saviour of the software industry and it's a point we've made several times. I doubt, however, that we'll see software as cheap as £10. There is some truth in the idea that you get many more hours of fun from a game than you do from, say, a video, so in some ways a higher price is justified. But we've got some more interesting opinions on piracy coming up…

CAUGHT!

OK, the game's up! Did you really think you could get away with it? You know I'm talking about the 'so called' picture of Shaun Southern in the programmers section last month. Am I not correct that this is exactly the same picture that appeared in TV listings magazines and is, in fact, Colin Firth who plays the hostage in a docu-drama about the Lebanon? Do I spot a deliberate mistake? I rest my case!

Mark McCormack, Huddersfield

Errm… yes. We couldn't find a picture of Shaun, so we thought it might be quite amusing to see if anyone recognised Colin instead. But we're not feeling generous enough to give you a prize!

DRIVES YOU CRAZY

Guess what these games have in common: *F-19*, *Thunderhawk*, *Harlequin*, *Shadow of the Beast*, *Shadow of the Beast 2*, *Xenon 2* and *Corporation*. All these games do not use a second disk drive!

What's the point of buying a second drive if companies don't make full use of the drives? I've paid £50 for my drive, and I would like companies like Gremlin, Core Design and Psygnosis to make use of it.

Dean Graham, Burnley

A very, very good point. With the arrival of the 1200, Ocean for one have told us that they plan to test all games on all processors – which is one thing that's been annoying ***Amiga Format*** *readers for a long time – and also to make all games hard drive installable. But will they take two floppies into account? After all, there's no good reason why not!*

PIRACY PART TWO

I regularly buy most major Amiga-related magazines and each and every one, at one time or another, makes the pirate out to be a sleazy, unwashed, fag-in-the-gob, square-eyed monstrosity who spends 23 hours a day hunched over some super-endowed Amiga or PC.

This type of pirate is blamed for the majority of all software-related piracy: he takes great delight in ripping off the software houses for millions of pounds every year, has multiple orgasms every time he manages to 'crack' the latest software protection and no doubt gains even greater enjoyment, not to mention 'brownie points', every time he manages to spread copies of his 'cracked' software to his other underworld compatriots.

But it's rubbish! Software pirates can be anything from the seven-year-old schoolkid trading games in the playground to the 66-year-old business executive giving each of his employees a workstation running Lotus *1-2-3*, or something similar, that the company only bought one copy of!

Software piracy is not just relegated to dingy back streets and dimly lit terraced houses. In fact, software piracy is firmly embedded (and is a majority shareholder I might add) within the computer manufacturing, distribution and retail sphere.

Paul Dalby, Glossop, Derbyshire

And, as you imply at the end of your letter, not until we recognise this fact will we be able to do something about piracy. You're quite right.

I think we have been guilty in the past of using this stereotype, but mostly I think it's the term 'pirate', with its glamourous connotations, is the problem.

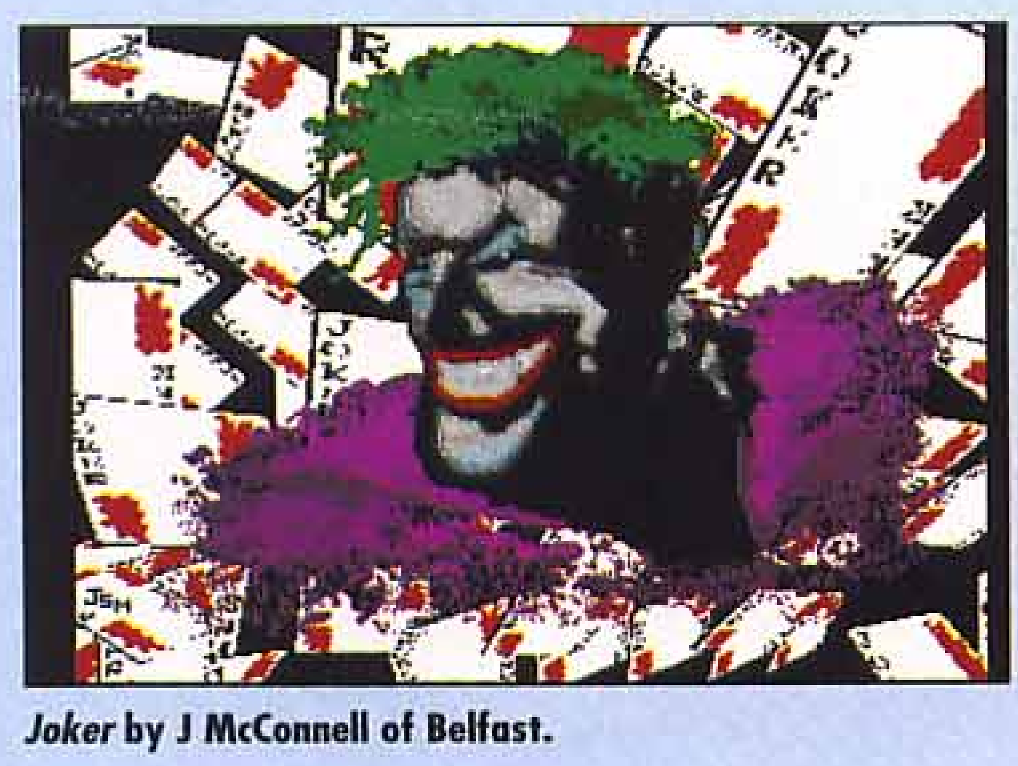
There are a few dedicated crackers around who think they're doing something terribly clever and anarchic, but really they make practically no difference. It's 'playground piracy' that's the problem: young people and ignorant parents who think it's no worse to copy a game disc than it is to tape a programme of the telly. And of course there's an enormous difference.

It's this casual copying that will be stamped out by CD – it will be difficult to copy in the home and uneconomical to copy any other way. When it happens, we'll start seeing what games can really be like, because the software houses will have the money to put into real development work.

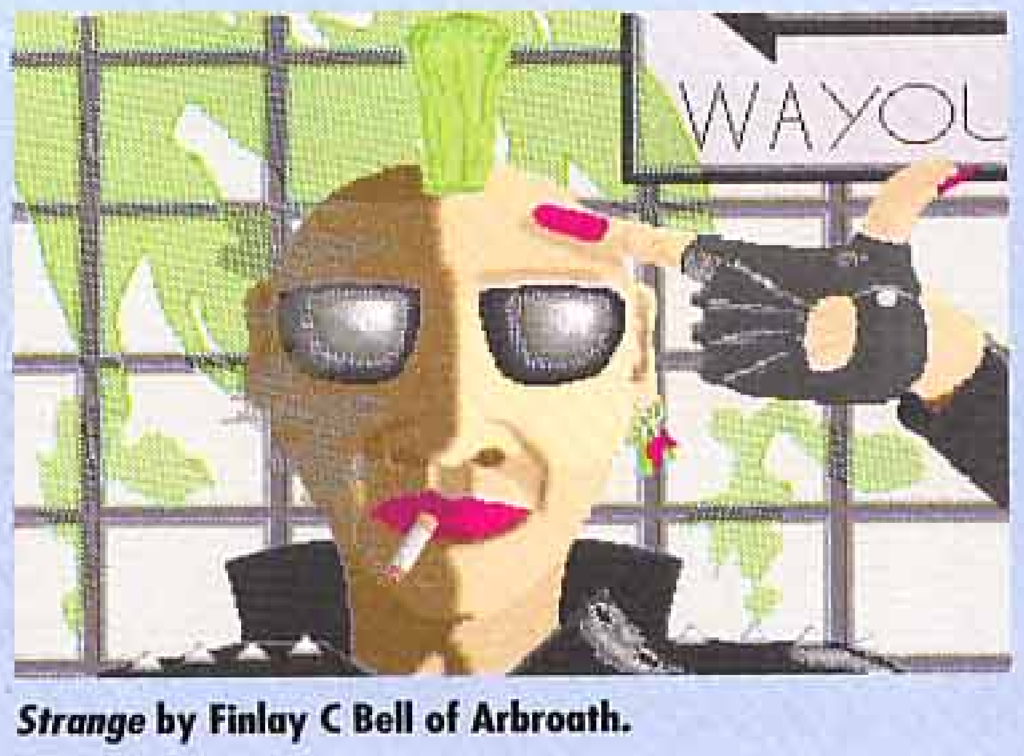
PIRACY PART 3

After reading the numerous debates throughout the letter pages of your magazine about piracy it would

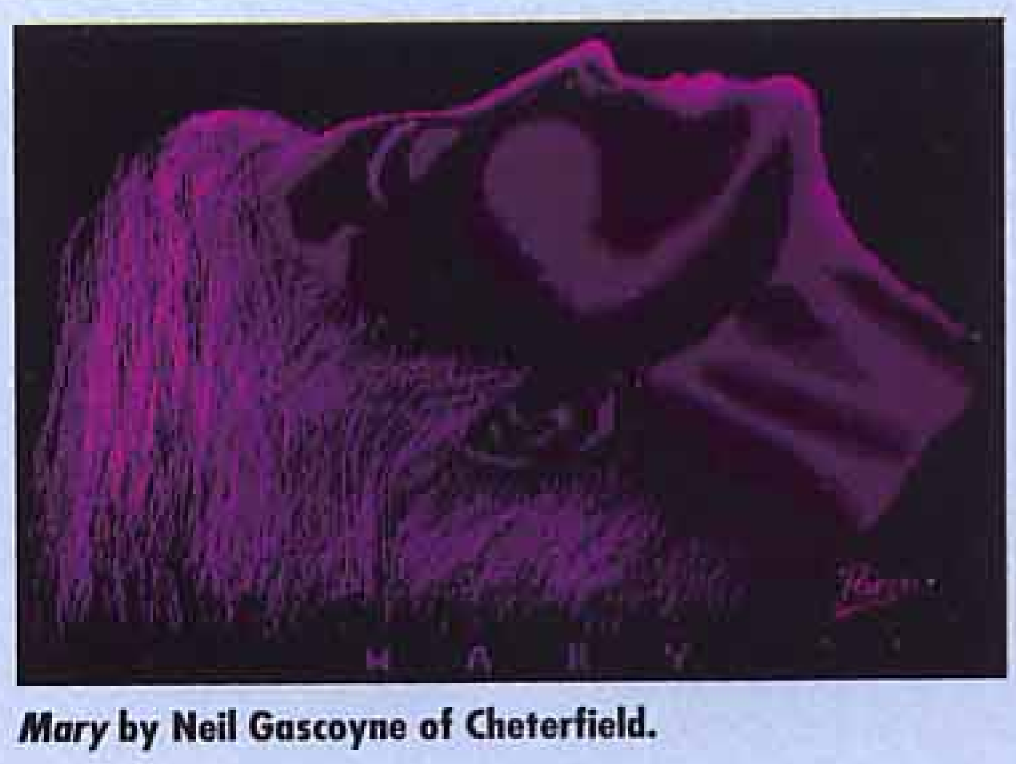
Continued on page 270



Joker **by J McConnell of Belfast.**



Strange **by Finlay C Bell of Arbroath.**



Mary **by Neil Gascoyne of Cheterfield.**

STAR FALLEN?

I saw your article entitled 'Which Printer' in the October issue of ***Amiga Format***, and being naturally curious I wanted to know what, if anything, you had said about the Star LC-20. How can a reviewer give the LC-20, the successor to the best-selling LC-10, a verdict of 65%?

First thing: the price. How did you manage to get the price quoted as £235? Why don't you take a quick look at some of the adverts in a copy of ***AF***? You may notice that it is actually impossible to buy an LC-20 for more than £200. Mine cost me £140 back in December.

Next you mention your NL-10 self-destructing: could this have been due to over-heating? You failed to pick up on the improvements made to the print head. They haven't cured the 'gets very hot very quickly indeed' syndrome suffered by most Star printers, but they have addressed the problem.

The print head now has a plastic cage around and some kind of temperature sensing built in. Now when you print out large amounts of high-density graphics, the printer will pace itself to help prevent the print head from spontaneously combusting.

Third, You said you had trouble with paper-feeding. How can you have trouble feeding paper into an LC-20? Feeding paper into the printer is as simple as dropping a sheet down the paper-guides and pulling the bail lever towards you; paper will feed into position, where you push the bail lever forwards, press ON LINE and you are ready to print.

How the hell did you get it to chew paper on a regular basis? Sure, it screws the odd bit of fan-fold now and again, but show me a dot-matrix that doesn't.

I feel that your review could have jeopardised the sales of LC-20s.

Jeremy Withers, Warley, West Midlands

You have to remember that we work under certain restrictions (though not the ludicrous time limit you suggest). For starters, we are pretty much obliged to quote the official list price of printers, even though they are widely available for a good deal less than list price – as we never tire of saying, shop around for the best prices.

Second, we have to assume that the review model we are sent is a representative sample, even though some faults might, for all we know, be attributable to a fault on the particular model we have on test.

At the end of the day (to use a footballing cliché) reviews are just a guide, but if you are left with the impression that there are now better dot matrix printers on the market than this particular Star model, then that's fair enough. It's true.

SUPER STAR?

Full marks for the feature in the October issue on printers. A bit too late for some of use who already have a printer, but that's life innit? Anyway, here are a few points regarding the review of the Star SJ48.

First, where on Earth (or in the galaxy for that matter) did you buy it from? If you take a quick gander through the many adverts in your magazine you would no doubt find that the normal Earth price for the SJ48 is around £230.

Second, regarding the print density, a quick call to Star reveals that it will function quite happily under the NEC Pinwriter or NEC P2200 giving full 360 x 360 dpi resolution. *IntroCAD* printouts will never be the same again!

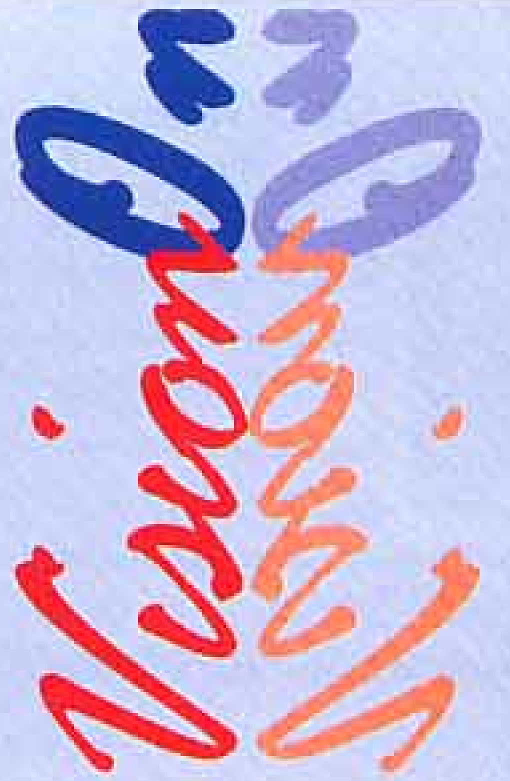
Andrew Parker, Warrington, Cheshire

We confess to a minor attack of the gremlins on the price. It is, indeed, about half the price we quoted in the review. And you're quite right about the print densities. We apologise to Star unreservedly for that one.

It's still a very similar printer to the Canon bubblejet, but the similar prices and similar facilities make it a straight toss-up between the two models of printer: if you can get your hands on an SJ-48 at a lower price than a Canon, then go for it!



Knight of Horus **by Oliver Harker, Montrose.**



Next month

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PLUS LEMMINGS 2 PLAYABLE DEMO

and the complet AMOS THE CREATOR programming language!

AMIGA FORMAT 42, JANUARY 19

DO NOT FORGET! Get down the shops for your co on Thursday December 10, or you could miss it!

WINNERS!

In Issue 39 we asked you to send in your questions. Any questions. Questions you've always wanted to ask about the Amiga, the world and/or most other things, but, for one reason, or perhaps another, have never quite got around to. And boy, did we get a panoply of posers to deal with. Maybe it was the direct and manly way in which we challenged you to ask them, or, more probably, it was the lure of seven superb games on offer for the first 10 enquirers to be plucked from our office millinery.

Out of the compo hat came a humungous squodge of queries and answer them we did in the *Amiga Format Annual '93*, on sale now at a very reasonable £3.95 – get your copy now. And if you already have, then please continue to do so.

Here are the names of the 10 lucky winners who will all be receiving copies of MicroProse's *Civilization*, Virgin's *Archer MacLean's Pool*, Gremlin's *Zool* and *Lotus 3*, Renegade's *Sensible Soccer*, Millennium's *The Aquatic Games* and Psygnosis' *Lemmings 2*...

Ben Wain, Rotherham, S Yorks
Mr IP Atterbury, Barnsley, S Yorks
Paul Hargreaves, Blackburn, Lancs
Paul Ng, Swindon, Wilts
Kevin Oakhill, Dunstable, Beds
David Bateman, Huntington, York
Robert Purser, Boston, Lincs
Robert Nicol, Crewe, Cheshire
CP Voyce, Overstand, Norfolk
Pete Thomson, Carterton, Oxon

Well done all. Have a nice day.

appear that everybody has come to the conclusion that if software were reduced to under £15, piracy would be wiped out. Yet that can't be true, because a lot of games that are available cheaply are still pirated.

I am 14 and in my third year at secondary school and every day I see hundreds of pirated games flying around including *Lotus Esprit*, *Rainbow Islands* and *WC Leaderboard*, all of which are available for £7-9.

Also, many full price games are soon available for under £15 in mail order lists. *Kick Off 2*, *Lotus 2*, *Prince of Persia*, *Man Utd Europe* and MicroProse *Golf* are just a few of the many games I have seen pirated copies of while they are available for around £10 in the adverts in your magazine, thus proving the 'reduce prices, reduce piracy' theory wrong.

David Hurdman, Skegness, Lincolnshire

But make casual copying impossible and you cut out this kind of piracy, which is (again!) why CD will yet be the saviour of the Amiga. If CD-based games are available for £20 when brand new and maybe a tenner or less a few months later, surely we'd all prefer to buy smart, boxed original copies?

Remember what's at stake here. If disks were the only option, software houses would have started giving up on the Amiga at the beginning of this year. As it is, we've got the option of moving up to CD; this not only secures the fact that all new games will be released on the Amiga, but also means that the software houses will prefer developing for the Amiga than for the Sega and Nintendo consoles, where their profits are wiped out by the cost of the cartridges.

Which in turn means that Amiga CD games become more popular, the Amiga takes over as Number One games format and the shops will be packed full of the stuff, making it far more widely available. It could be a good future!

COST EFFECTIVE

I am very impressed with the way you continually ask for feedback on how we want 'our' magazine to look. So far I'm pleased with the results.

I would however like to draw your attention to the ***Amiga Format Special*** – which too was impressive, but £3.95? I ask you. Look at is this way, I went to my local shop and handed over £7.90 in total for both mags which could have bought me a decent low-budget game. It was a bit much to ask.

Paul Ryan, Edgware, Middlesex

It seems like a lot, but consider what you're getting. The best Amiga magazine, plus a complete program that could be worth from £20 to £100. Then you've got the Special, which is more like a book than a magazine, which is why it costs more. And when you see the Special Annual, I think you'll be pretty impressed.

MATTER OF OPINION

After reading a letter in your magazine about software piracy, I feel I must write and say that the person who wrote the replies to these letters is a prat. He says 'you don't have to buy a game if it is bad.' He then goes on to say that magazines like your own help people to decide what game are good and what games are not.

This is all well and good, provided that the person reviewing the game has the same tastes has the reader. The reviews in your magazine and in others are the views and opinions of only one person. Surely a better way to review a game would be to allow several people to make comments on it, grade it and then take an average mark.

Gavin Don, Ellon, Aberdeenshire

In fact that's exactly what we do. In most cases a game will be checked by at least three people – the reviewer, the reviews editor (Neil) and the editor (me). We frequently argue, and then come up with a compromise.

In many cases, more of us get involved. You should have seen the arguments over whether Zool *should be rated higher than* Rainbow Islands *and whether* Putty *should be rated higher than* Zool. *Finally, of course, it's an opinion, but generally, most people will agree whether, say, a film that Barry Norman reviews is good or not. You may find it interesting to look at the results of our readers' poll (printed in the Annual, now on sale!) where it becomes quite clear that there is a consensus as to which Amiga games are the best, and they agree with us!*

STRANGE...

I believe that I am typical of many other teenagers in that I don't play games a lot. I spend most of my computer time trying to create a worthwhile animation, program, drawing or story.

When I tell my friends this, they don't believe it, but it's true. A lot of the Amiga users in my age group that I know are either games junkies or trying to crack the software they do own (a bit difficult when you consider that none of them know anything about or have any intention of finding out about assembly and machine code).

Dermot Williams, Dublin, Eire

I think you're probably right in saying a lot of people use their Amigas for other things than playing games. That's what makes the Amiga so popular. But the vast majority of us still enjoy playing games.

What I do find sad is the part about trying to crack games. It's a bit pathetic that so many people think it's clever or glamourous to do that. It just requires a lot of tedious, techie programming knowledge which (in my experience) is the equivalent of being a boring swot.

The great thing about the people who program games is that they not only have the expert knowledge, but they are also creative people. Crackers, by contrast, are socially as lame as they come.

DEMOS WINNER

I am constantly amazed at the number of people who write in to your magazine moaning about the price of games. Personally, I am perfectly willing to shell out £25 – £40 for a game, as long as I think it's worth it.

For example, I paid £27 for *The Addams Family*. The only reason I was willing to pay this much was because another magazine gave away a demo of it and after playing it, I decided I wanted to see it in all its glory. After many hours of frustration I finished the game, totally satisfied. In fact, I probably would have paid more.

Probably the best way to combat piracy (you'll never ever stop it completely, there's a way round everything) would be for the software houses to give a full demo of the completed game, not just work in progress, say a month before the game is released.

This gives everyone who wants the full game a chance to save their pocket money, maybe do a few odd jobs, so that when the game does come out they have enough money to buy it there and then.

Ms C Goodwin, Barrow-In-Furness

Quite right too. It constantly amazes me that software houses are not falling over themselves to get demos of their games on to the **Amiga Format** *Coverdisk. It's the best possible form of advertising (no other form of advertising is completely interactive) and ought to cost many thousands of pounds, yet we give them the chance to reach 200,000 people for free!*

Spot the shot 39



Simply identify the game that this small portion of a screenshot is from, write the answer on a postcard with your name and address and send it in to us. The address is Spot the Shot 41, ***Amiga Format***, 30 Monmouth St, Bath BA1 2BW. The first correct entry out of the hat every month will win a fabulous ***Amiga Format*** T-shirt!



The winner of Spot the Shot 39 is Brian Haynes of Sallington, Northampton, who correctly identified the game *Zool*. An *Amiga Format* T-shirt is on the way.

CAN IT BE true that a country that is plagued by regular power cuts has also built the world's biggest lighthouse?

It seems so. The gallant sailor-lovers of the Dominican Republic have erected a massive marine-safety edifice that uses 197 enormous lightbulbs of the same kind of that is used to floodlight Disneyland.

The lighthouse projects a massive cross on to the underside of low cloud – when the electricity is working, at least. The Dominican Republic has at least two power cuts a day.

SO, ENGLISH HERITAGE is to sell 200 historical sites to cut down its £90 million budget. We have a few suggestions to go along with Winchester Palace and Hadrian's Wall. The following might make vast amounts. How about The Rovers' Return? Brookside Close? Wembley Stadium? Maybe Buckingham Palace and Windsor Castle could raise a few bob. And then, of course, there's Canary Wharf, a strange religious site used by high priests of a now long-dead faith.

HOW MANY COPIES

of Madonna's new book have been bought and will not be taken out of their Mylar wrapping for another 20 years until they are auctioned off as pristine copies? We guess... lots.

By the way, Mylar is used to make PCBs and the drivers for Sony MDR head-phones.

Actual Reality

Life can be a vicious, tilting, greased hog-ride if you let it get away from you – just look at the Government. Luckily, we have our Amigas. Unluckily, real-life still goes on outside. Let's have a look at

A MINE OF WISDOM

Does anyone out there remember when Arthur Scargill was generally accepted as being the country's foremost prophet of doom, gloom, looniness and boat-rocking anti live-now-pay-laterism, as he ranted his way around the Commie-infested pits of hell that were the mines?

Does anyone remember when Michael Heseltine was generally perceived as being the caring, forward-thinking, earthy, slightly eccentric, but essentially people-centred face of Government, as he eloquently orated his way around Toxteth and other trouble spots?

Does anyone remember when the miners were the mental, Marxist, money-grabbing exponents of 'the British disease'?

Does anyone remember when the financial institutions were the cash-producing free spirits at the vanguard of the British revival?

Does anyone recall when Arthur Scargill was berated for not calling a national secret ballot among the miners?

Does anyone know when the date for the Maastricht referendum is?

Strange thing, life, innit?

WE HAVE RECENTLY seen the 50th anniversary of the battle of El Alamein (before which we hadn't had a victory, and after which we never had a defeat – cheers). Various stories were told about the 12-day battle and the leadership of the distinctly eccentric Viscount (Bernard) Montgomery. But the tale of the Field Marshall's Kung Fu skills did not emerge. Well, Tim went to a school in Winchester that used to bear the name Montgomery of Alamein. In the main foyer of this hallowed hall of learning was a picture of the great old warrior (Monty that is) apparently chopping the headmaster in the back of the neck on the day of the school's naming as the head leaned over to sign a book. The tale of Monty's martial arts expertise was a tightly kept secret, and can only now be revealed.

THE GREEK GOVERNMENT (which is gaining a regular Actual Reality spot) is to buy up repossessed hotels and turn them into prisons mainly for people convicted of tax-evasion. Now why would anyone turn a hotel into a prison for that particular offence? Mmmmm?

MORE GREAT HEADLINES OF OUR TIME

It's *The Guardian* again. This time from the Monday, October 19 edition. We think this headline doesn't just catch the reader's attention... it bludgeons you into abject bewilderment. Here we go then... 'Beware the truth behind the optimists' belief in the devaluation panacea'. Wooah! The piece was written by a Dr Panic of Selwyn College Cambridge. You'd also have had a job working out BBC1's One O'Clock News headline on October 15, which announced to the world that: 'The latest figures show that one in ten workers is now jobless." Define 'a worker', Auntie.

TEN THINGS YOU WON'T HEAR ON THE BUS THIS MONTH

1 Having studied the Maastricht Treaty in some depth I think that...
2 Ross Perot didn't once think of getting lots of free PR for his own company!
3 What book by Madonna?
4 Wasn't Spitting Image offensive this week?
5 Trivial Pursuit anyone?
6 I just don't know what to spend it all on.
7 After what Gary Lineker said, I for one won't be letting my children watch Match of the Day again.
8 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx!
9 Isn't it good that no one's put Christmas lights on yet?
10 You must come and see our new office in Canary Wharf...

Amiga Format Issue 41

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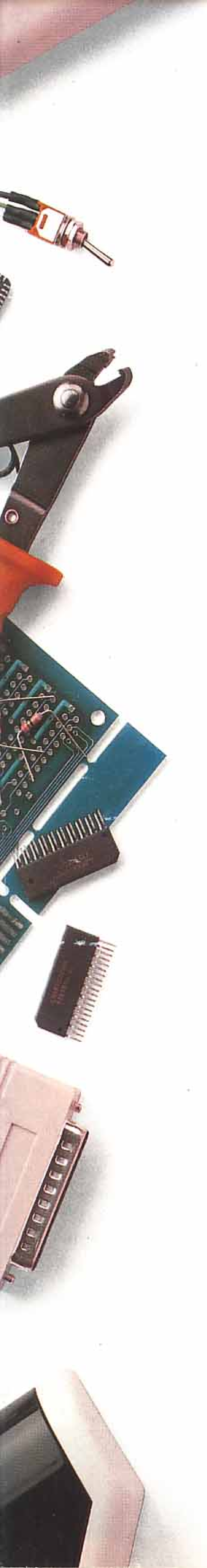
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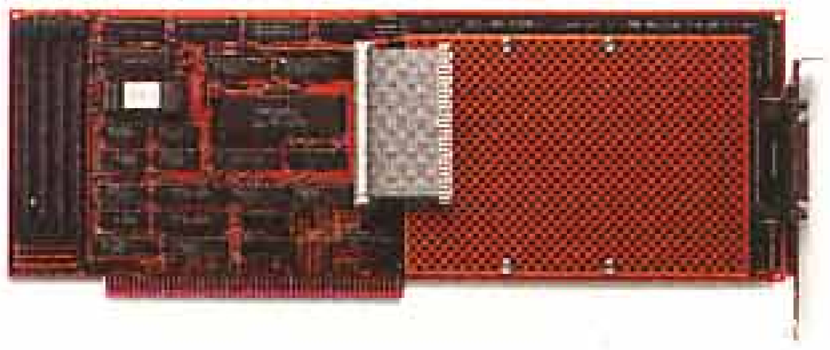
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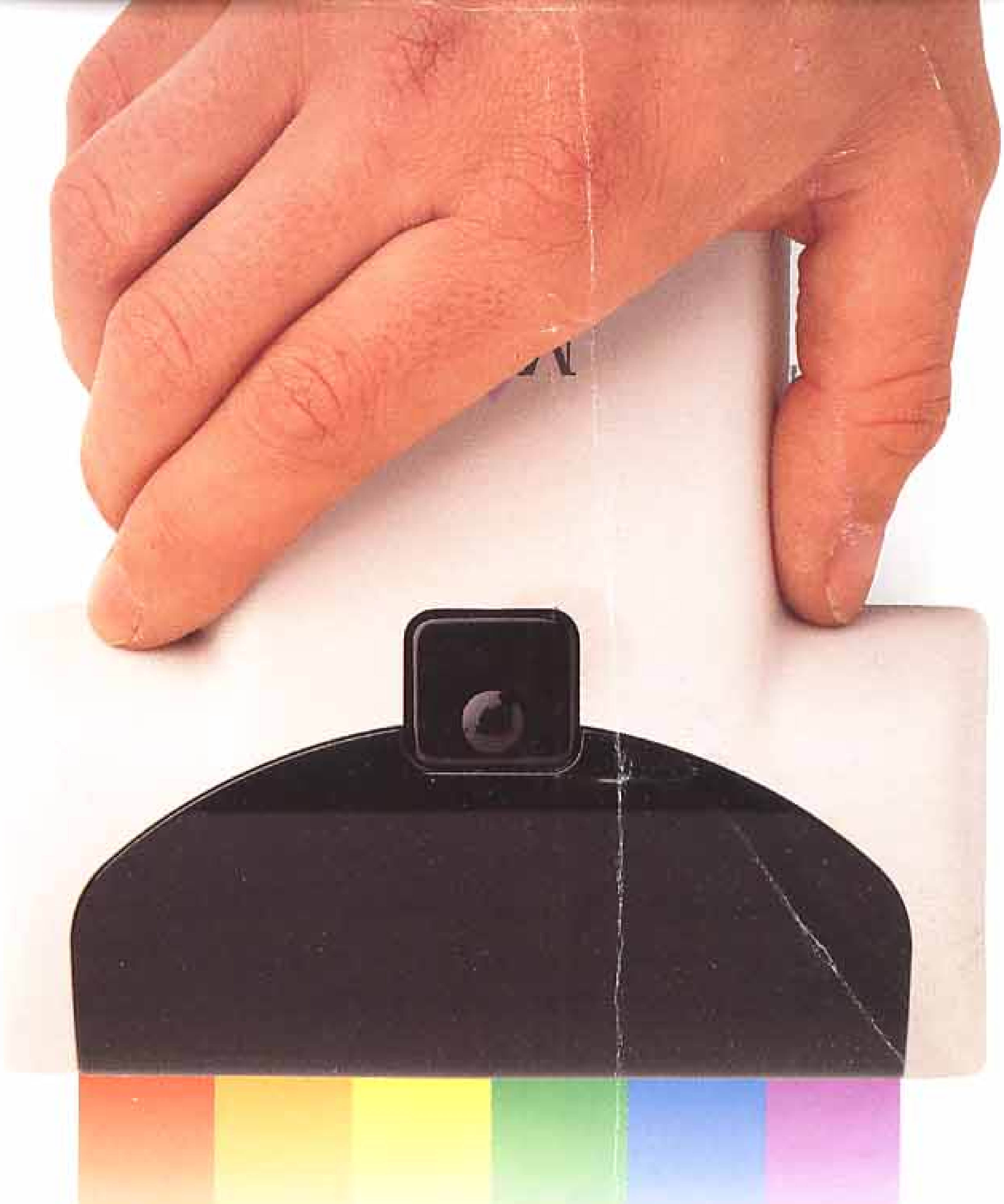
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Colour PowerScan

The Power Computing colour hand-held scanner for the Amiga is now available. This scanner offers the following features

- 4096 colours
- 50-400 DPI
- 4 Scanning modes
- Text
- Greyscale
- Colour halftone
- Colour

The Amiga interface plugs into an A1500/A2000/A3000/A4000 expansion slot with a separate version which connects to the expansion connector of the A500/A500+. The A500 version has a through-port which is compatible with all Amiga 500 expansion peripherals.

The software supplied with this scanner is the new PowerScan Professional 3, which also supports the greyscale scanner and will be available as an upgrade to existing users of PowerScan for £15.

Colour PowerScan v3.0 features

- Real-time 'True-feel' scan option in colour halftone mode
- Images are stored internally as 12-bit graphics, not HAM. This means that no quality is lost due to the Amiga only being able to display HAM images in 4096 colours
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- HAM images may be loaded from disk and edited using PowerScan 3
- Image size that can be handled is limited only by the amount of memory available
- Memory does not have to be chip memory as in many art packages
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- Variable zoom mode
- Draw freehand, lines, circles, boxes and polygons in various fill patterns, brush sizes, paste modes, or with the clip board image
- Clipboards may be scanned directly, or any shape can be cut from the main image
- The software is compatible with all Amigas
- Supports Workbench 2 and ECS screen modes

Colour PowerScan now available

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The Amiga can only display 16 greyscales

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